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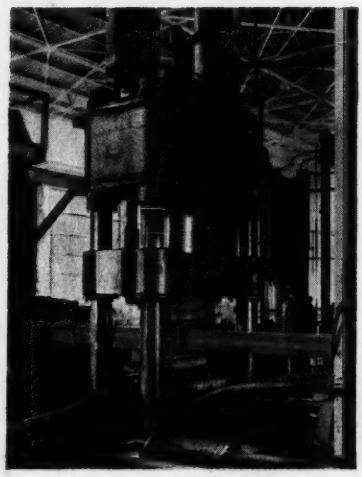
OIL WORLD



The new P.A. learns something abo buying steel from the oldtimer!

NEW P. A.: "I'm in a jam and need your help, Oldtimer... We've breakdown job and need two feet of eleven-inch round carbon steel away... I've already tried a couple of places but they don't stock any anywhere near that large... In fact one of them told me eleven inc beyond the rolling mills' capacity and we'll have to have it forged... wait for that... This job is hot!"

OLDTIMER: "I can see you haven't tried Jorgensen's, have you?"

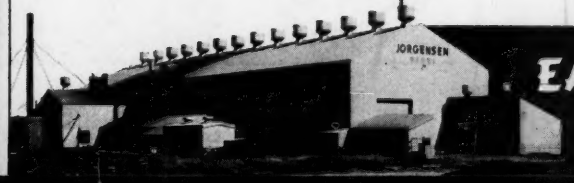
NEW P. A.: "No, I haven't. Do you think they can supply it?"

OLDTIMER: "Well, as far back as I can remember they've always c large stocks of forged rounds – both carbon and alloy – in all their houses. In fact they're the only distributor I know of who carries ... Sort of a specialty with 'em... Call 'em, I'm sure they'll take c you, especially now that they operate their own Forge Division an replenish their stocks quickly."

NEW P. A.: "But wouldn't a forged bar be kind of rough?"

OLDTIMER: "I should have said pressed bars instead of forged ba cause they are pressed under special dies on a steam hydraulic press a so straight and smooth you can hardly tell 'em from rolled bars... I k I've bought 'em."

NEW P. A.: "Thanks a lot, Oldtimer... I'll call Jorgensen's right away



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This special pipe can come in mighty handy on a tough fishing job. You can use it for backing off right hand pipe . . . as tailpipe for going inside small-diameter fish . . . for cutting casing, drill pipe, or tubing . . . for working through plugged drill pipe . . . for washing over stuck drill pipe . . . for backing out stuck sucker rods . . . in fact, for practically any phase of fishing operations where left-handing or going inside small diameters is necessary. In addition Bowen has left-hand Cutters for use with the left-hand macaroni tubing, eliminating need for laying down the left hand string and securing a right hand string to cut the tubing after the rods have been removed.

So remember to call Bowen for **all** your fishing requirements . . . both for dependable Bowen Fishing Tools and for the right type of pipe to run them on. It's **another** way Bowen has of giving you a really **complete** fishing tool service—**24 hours a day.** Next time, give Bowen a ring!

Keep this chart of Bowen Rental Pipe sizes for future reference. Call Bowen—day or night—and your order will be filled promptly.

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10,000'—3-1/2" LH Drill Pipe
8,000'—2-7/8" LH Drill Pipe
8,000'—2-7/8" RH Drill Pipe
8,000'—2-3/8" LH Drill Pipe
1,000'—2-3/8" RH Drill Pipe
26,500'—1-1/4" Upset Tubing, Seamless N-80 with 2-3/16" OD RH Tool Jts.
8,500'—1-1/4" Upset Tubing, Seamless N-80 with 2-3/16" OD LH Tool Jts.
500'—9" Wash Pipe (10-3/4" O.D. Tool Joints; 8-1/8" I.D.)
545'—8-5/8" Wash Pipe (9-3/8" O.D. Tool Joints, 7" I.D.)
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CALIFORNIA
OIL WORLD
and Petroleum Industry

PUBLISHED TWICE A MONTH
FOR TIMELY, COMPLETE
CALIFORNIA OIL NEWS COVERAGE • FIRST ISSUE

PETROLEUM PUBLISHERS, INC.
MEMBER AUDIT BUREAU OF CIRCULATIONS
W. C. MONROE—President and Editor •
V. W. HEINZERLING—Manager News Service

117 WEST 9TH STREET
LOS ANGELES 15, CALIFORNIA
KINZIE MILLER—Vice President

JANUARY, 1944
VOL. 37 • NO. 1
WHOLE NO. 1648

California Oil World and Petroleum Industry is published twice a month at 117 West 9th St., Los Angeles 15, California. Entered as Second-Class Matter January 16, 1937, at the post office at Los Angeles, California, under the Act of March 3, 1879. Subscription price $1 per year in U. S. and Possessions, $2 in foreign countries, including Canada. Member of the Audit Bureau of Circulations.

January 15th, 1944
Telephone Number TUcker 2571

Editorial

A note of warning to which the California oil industry may well give serious attention was voiced by Deputy Petroleum Administrator Ralph K. Davies in his recent address before the San Joaquin Valley Oil Producers Association at Bakersfield. Mr. Davies forsees the possibility of Federal intervention in California's oil affairs after the war. This can be avoided, he belives, if the industry begins now to give thought to its post war problems of adjustment, which will be "of a most vital sort," and to devise plans for meeting them.

He explained that while the industry has been gearing its operations gradually over a period of months to meet the rising demands incident to the war, the change back when peace comes may very well be not at all gradual and the industry may be faced almost overnight with the necessity of applying the brakes to avoid a period of wasteful operation. Waste, he believes, will not be tolerated now that the public has been awakened to the fact that our petroleum resources are not inexhaustible.

"As the petroleum reserves of the country decline," said the Deputy Administrator, "and as the public comes more fully to realize the degree to which the life and liberty of the nation is dependent on oil, there must surely follow a universal demand that hereafter no single barrel be wasted needlessly and that the economy of oil be managed everywhere and always in the public interest."

"The industry will do well to recognize this fact," he warns.

For years, following the discovery in the early '20's of a series of great oil fields in the Los Angeles Basin, California was beset with problems which, Mr. Davies maintains, were never satisfactorily solved. It would be foolish for us to contend that there was not waste of natural gas and waste in the production of crude oil during these years. But it may be well to point out that the people of the state, themselves, twice defeated by referendum attempts to prevent waste by state regulatory legislation. The industry itself was divided on the need for this legislation. Back in 1929 it had set up its own conservation program on a voluntary basis in an endeavor to eliminate wasteful production practices and this program was continued through the years of controversy over state control until zooming war demand removed the need for it. There never was 100 per cent compliance with the voluntary program, but considering this handicap a great deal was accomplished.

Mr. Davies believes that while the problem has been temporarily obscured by the war, it will appear again "to plague the industry and endanger its future."

Now it may be well asked whether the results of voluntary conservation, which have admittedly always fallen short of perfection in the past, be good enough in the post war era when supply and demand conditions return to an approximation of what they were before the war.

Mr. Davies has not given the answer. In fact he did not even go so far as to specifically refer to the industry's problems—as we have done here—in his Bakersfield address, but his audience of San Joaquin Valley producers was able to read between the lines when he said: "It is my hope that the industry itself will recognize the existence of the problems and come forward with practical solutions." "In this way," he added, "it may never become necessary that the Federal Government enter at all."

This journal is not proposing a course of action. It is not advocating a state control law. It certainly is opposed to Federal control. But it does agree with Mr. Davies when he says, "the industry has full opportunity for self-determination if it will but rise to the occasion."

It is, in other words, up to the industry how the post war conservation of petroleum will be accomplished; whether by an effective system voluntary action or by compulsion through state legislation or by federal intervention. If there is no overproduction problem there will be an insistent demand from the government for unitization for pressure maintenance and secondary recovery. The suggestion that the industry had better begin thinking about the matter should not go unheeded.

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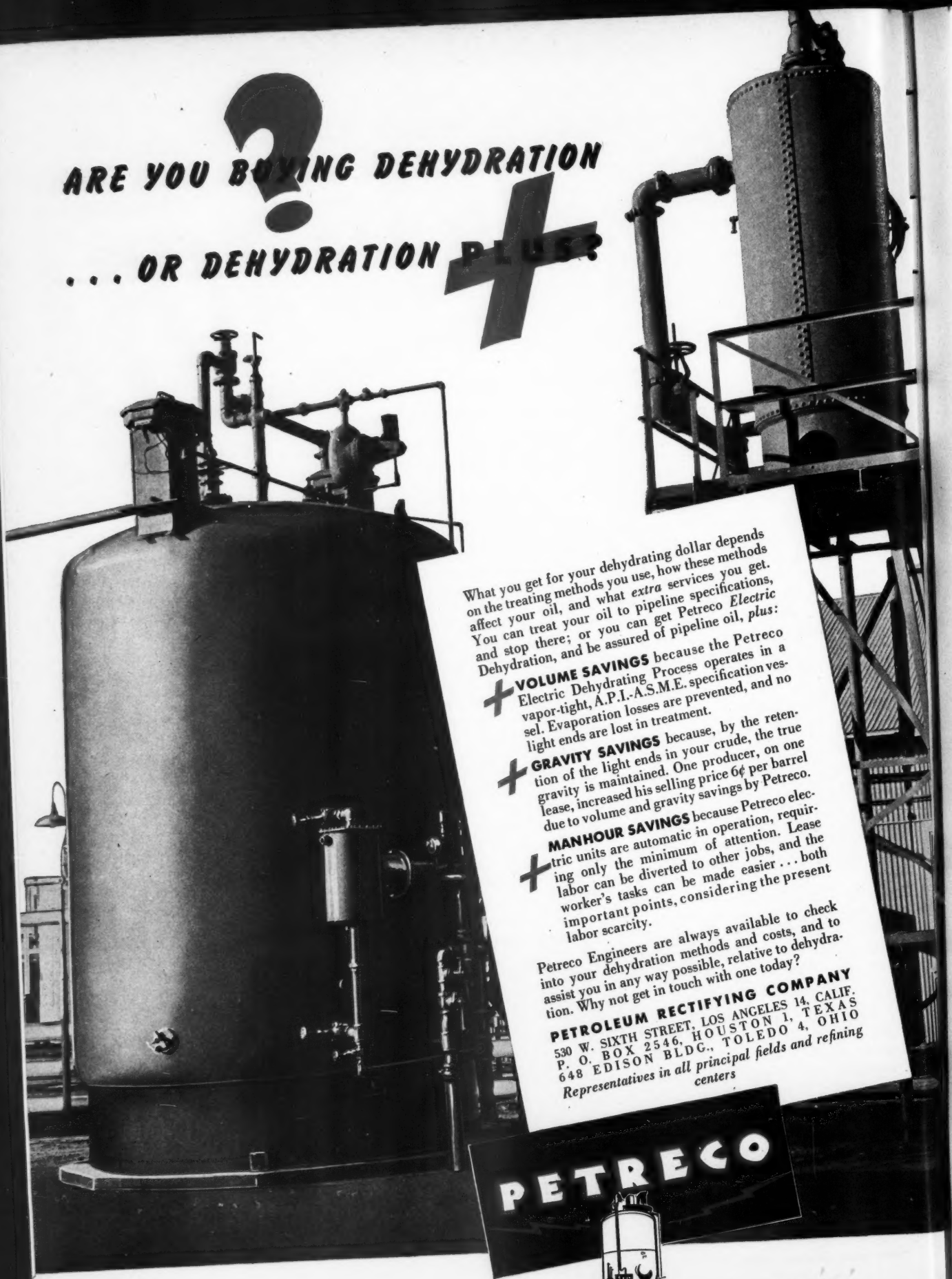

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Reports From Washington

The indefatigable efforts of Robert E. Lee Jordan, California independent oil operator, to force a show-down on ownership of oil-producing tidelands were blocked once again early this month when the United States Supreme Court denied a review of Jordan's appeal —now pending before the U. S. Court of Appeals.

Attempting a quick end-run around legal barriers, Jordan applied to the highest tribunal for a writ of certiorari (review) . . . His plea to the Appelate Court was entered Nov. 15, and is still undecided, creating what Government attorneys term an "extraordinary" situation.

While Jordan's perennial attempts to obtain leases to exploit the disputed California tidelands normally would not attract attention, the bearing that the case has upon the ticklish question of State vs. Federal sovereignty over submerged deposits makes it a sort of "cause celebre" among California oil men.

Briefly, Jordan — who described himself before a Senate committee in 1939 as a "pioneer" independent oil operator from Texas and Oklahoma, with "much practical experience and training in petroleum and research engineering"—applied, in 1937, to the General Land Office (Interior Department) for prospecting leases on submerged lands off the coast of California. These applications were turned down, on the ground that the property belonged to the State of California and the Department had on authority to grant the applications.

Jordan then appealed to Secretary of Interior Ickes (getting no answer), and last March, filed suit in the District Court of the United States for the District of Columbia asking declaratory judgment that tidelands ownership was in the United States and under the jurisdiction of the Interior Department.

The case was dismissed on a motion by the Government supported by an affidavit to the effect that question of title to the submerged lands was being investigated by the Department of Justice.

Because of the lively interest displayed in the tidelands subject, when the Nye bill (authorizing the Department of Justice to assert title to the undersea deposits in the name of the U. S.) was under consideration last spring any indication that justice still is studying—even if not "investigating"—the matter is an irritant to the proverbial hornet's nest.

However, Justice Department officials told CALIFORNIA OIL WORLD that, when Jordan asked for a writ of mandamas, the Department opposed him on the grounds that Congress was "considering" legislation on tidelands ownership. (This probably referred to the abortive efforts of Sen. Gerald P. Nye (N. Dak.) to breathe new life into the matter months ago).

While Jordan's appeal still rests before the Appelate Court, few Washington attorneys believe that U. S. Ex Rel Robert E. Lee Jordan vs. Harold L. Ickes, Secretary of Interior, stands much chance of a settlement in Jordan's favor.

By jumping the gun and petitioning the Supreme Court for a review of the case, Jordan may have injured whatever chance he had for favorable disposition of his six-year problem. Only in unusual circumstances, such as sabotage cases, is a petition taken to the final arbiter while the case is still pending in a lower court, it was pointed out.

The general consensus was: (1.) the Appelate Court will support the finding of the District Court and dismiss the case and (2) the New Year's flurry over Jordan vs. Ickes is not likely to touch off the dormant issue of tidelands ownership—an issue which, with millions of dollars in tidelands properties invested in behalf of the war effort, would arouse the port authorities from Maine to California.

Robert E. Lee Jordan's rebuffal by the Supreme Court appeared to be the only new development of 1944, but this by no means indicates a New Year devoid of oil news for the Pacific Coast. While, at this writing, officials and members of Congress have not yet shaken off their holiday lethargy, there is no doubt that the coming year will see much of the war effort diverted to the Pacific. This means that the California oil industry will have new problems to consider within a very short time.

A new slash in gasoline rations for the West Coast is a foregone conclusion. Withdrawing from 9,000 to 18,000 gallons a day, over and above the amount certified to Pacific Coast civilians by the Petroleum Administration for War, it stands to reason the supply will run out. This is a problem faced by the East Coast—where more coupons still are issued than will absorb the supplies on hand.

But in California—soon to be transformed into a vast port of embarkation—the pinch may be even more severe than in the East. While no predictions have yet been made, a good guess would be that ration coupons soon will be chopped to two gallons. (Since it is the job of the Office of Price Administration to curtail consumption, the unpleasant news is expected to come from OPA, rather than PAW.)

* * *

Standard Oil Co. of California and its "partner," the U. S. Navy Department, are hoping for a brighter turn of events in 1944. Resumption of hearings by the House Naval Affairs Committee is scheduled for

Best Sellers from Consolidated Steel

Pictured here are current Consolidated Steel Corporation best sellers—vital equipment produced for the armed services and essential industry in the amounts shown. (All figures estimated as of December 31, 1943.)

The diverse character of these products and the precision work involved represent scores of problems overcome, scores of new production techniques adopted. We are, naturally, proud of this array—a record in steel that has won for the men and women of Consolidated Steel every basic government industrial award.

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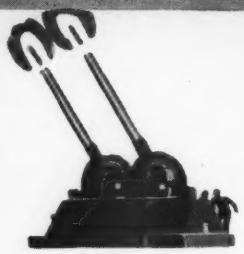
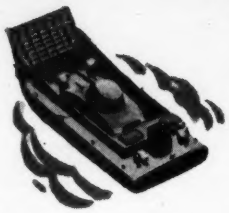
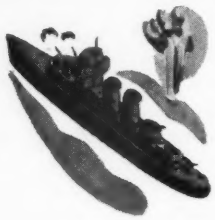


FOR THE NAVY: five-inch anti-aircraft guns. Built to tolerances of 2/10,000 in. Produced in the amount of $20,000,000.

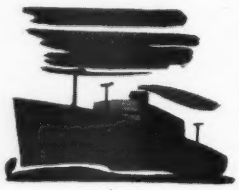


FOR THE MARINES: mechanized landing craft. Produced in the amount of $7,500,000.

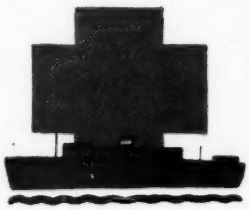


FOR THE NAVY: destroyers, destroyer escorts and frigates. Produced in the amount of $295,000,000.

FOR THE ARMY: large infantry landing craft. Produced in the amount of $9,000,000.

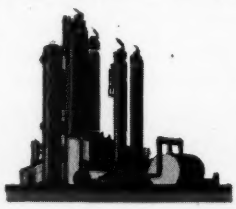


FOR THE MARITIME COMMISSION: 12,900-ton high-speed Merchant Marine (C-1) cargo and passenger ships. Produced in the amount of $175,000,000.



FOR THE NAVY: hospital ships and transports. Produced in the amount of $17,000,000.

FOR AERONAUTICAL RESEARCH: wind tunnels including the world's highest speed wind tunnel as large as 16 feet throat diameter. Produced in the amount of $1,300,000.



FOR WAR INDUSTRY... equipment for fuel, synthetic rubber and other war plants. Produced in the amount of $4,500,000.

January 14, and there is some (not too much) hope that the baffling question of production from Standard's Elk Hills holdings will be satisfactorily resolved.

Slapped down, early last year, on a Navy-Standard contract providing for joint ownership and operation of Standard's holdings in Naval Petroleum Reserves No. 1, the two parties to the agreement had a rough time of it in 1943. The contract was abrogated—after cries of a "second Teapot Dome", from the Department of Justice—; Navy and Standard of Cal. have been limping along on an interim agreement, permitting production of 15,000 barrels daily from the property; and the "investigation" of the contract was kicked from the House Public Lands Committee into the more powerful House Naval Affairs Committee.

Although some members of the Naval Affairs Committee betrayed a horrid glint in their eyes when the subject of Government condemnation was broached, it is believed that the fact that 15,000 B/D of production—while only a drop in the bucket, as far as coming needs are concerned—will receive considerable attention where, a year ago, members of Congress were warning that Standard's Elk Hills oil treasures should be "locked in the ground" for posterity.

Condemnation proceedings would be long and costly; Standard's Elk Hills contributions of petroleum are going to be needed in the impending oil drought; something has to be done before the present interim arrangement—extended, tentatively, from Dec. 8 for a 90-day period—expires.

* * *

Speaking of California-Standard, the company received its first payment from the Mexican Government, in payment for oil properties expropriated by Mexico on Jan. 4.

Following an agreement between the U. S. and Mexican Governments last September, it was decided that Standard of Cal. should receive a total settlement of $3,589,158, plus 3% interest from the date of expropriation,—payable in four yearly installments, the last of which will be due in September, 1947.

Internationalism is attracting more and more interest in oil circles. With Secretary Ickes' new baby", Petroleum Reserves Corp., paving the way for intensive foreign exploration, Washington obcervers were speculating some days ago about the visit made to the White House by J. F. Drake, president of Gulf Oil Corp.

Accompanied by Mr. Ickes, the Gulf head man called upon Mr. Roosevelt, but no public statement was forthcoming. According to some shrewd guessers in the Nation's Capital, the Gulf prexy is toying with the idea of enlarging his interests in Kuwait Oil Co., Ltd., a concession covering the State of Kuwait, on the Persian Gulf. Gulf owns a 50% interest and Anglo-Iranian Oil Co., Ltd., a British concern, owns the remainder. Drake, according to these sources, is anxious to make a "deal" with the British for a larger share of the property . . . As far as could be ascertained, the U. S. Government is not concerned in the transaction, —although the picture may have been changed slightly by the visit with F. D. R.

* * *

As CALIFORNIA OIL WORLD goes to press, a report on the Canol project is due from the Senate Truman Committee. Fireworks are expected, because of the deep-seated differences of opinion between the Navy, the Petroleum Administration, and Truman group, on one hand, and the Army on the other. But General Sommerville, Army Service Forces head, admittedly impressed the probers with his views.

Since "business as usual" has not yet been resumed in Washington, after the Christmas recess, few real clues have been scattered about as to the posible conclusion of the $134,000,000 Alaskan oil controversy . . . Except that the Army fully intends to complete the project and that pressure now being applied undoubtedly will result in giving the U. S. a slice of whatever profits may come from Canol in the post-war period, instead of making it an almost completely Canadian asset.

Standard Oil Co. (N. J.) came forth with a handsomely printed booklet on Canol, at the end of the year, in which it was emphasized that the Jersey Company's subsidiary, Imperial Oil Ltd., was interested solely in "supplying oil" for the project and that Imperial's interest in the job amounted to only $5,000,000 out of the total $34,-000,000.

"This is the only portion of the project in which Imperial Oil Limited or Standard Oil Company (N. J.) has taken part", the booklet stated.

* * *

To wind up on a cheery and domestic note, Petroleum Administrator Ickes greeted the New Year with a statement that engineering for the 22 plants producing 100 octane gasoline was "more than three-fourths complete."

Administrator Ickes stated:

"By this time next year, we expect additional plants to be completed and increasing substantially the stream of aviation fuel flowing to the fighting fronts. Production from the plants to be built in 1944 will furnish the victory margin for the knockout blows of the United States and Allied air forces against the enemy.

"The volume of 100-octane gasoline has been increased many fold in the short space of two years. There are 163 plants, large and small throughout the country, which are now contributing to its manufacture, and still we do not have all that we are going to need.

"Completion of the 22 major refineries scheduled for 1944 construction will conclude the vast 100-octane building program, initiated by PAW, in cooperation with the oil industry, in the Spring of 1942, at the tremendous cost of $900,000,000. How much 100-octane gasoline actually is being used and will be needed to win the war cannot be revealed, but it is expected that, with the added production from these plants, the volume of fighting fuel will be raised to levels adequate to meet the war demands as they now are anticipated by Allied strategists."

GREATER COOPERATION

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Production History of Inglewood Sentous Zone

By W. E. Dunlap
Consulting Engineer

During the forepart of 1940 the writer prepared an article for California World, which described the deep zone oil possibilities underlying the Inglewood Oil Field, with particular reference to the northwest portion of the field. A longitudinal cross-section accompanied the article which showed that the Federal Oil Co.'s location projected on the section, should expect the top of the Miocene somewhere around 5700 ft., and that commercial oil zones comparable to the 7th and 8th Callender zones at Dominguez should be expected within a depth of 6500 ft.

The above figures were based on data obtained from the electric log of the Plymouth Oil Co.'s Pollard well, drilled to a depth of 5602 ft. and located only a short distance southwesterly from Federal Oil Co.'s location. Upper zone correlations with many other wells on top of the structure looked so simple that all the Federal Oil had to do was to drill at least to 6500 ft. without fear of any structural disturbances, and put the well on production from newly discovered Miocene deep zones.

Well, good readers, the Federal Oil Co. completed a well on March 5, 1941, to a depth of 8334 ft. and not 6500 ft. The top of the Miocene was picked up around 6970 ft., only 1270 ft. deeper than the writer calculated!—not bad for an engineer with only 30 years experience.

The well came in with an initial of 2200 B/D of 32.7 gravity oil, about 0.8% cut, 1800 pound tubing pressure, 3000 pounds casing pressure, and 700 M.C.F. of gas per day, the results certainly compensated for the additional depth and expense.

Since the completion of Federal No. 1, twenty-eight wells have been completed to the Sentous zone; two of them were failures while two others, which were drilled near the southeast edge of the field, came in as very small producers. Another well in the twenty-eight, located in the middle of the field, has been completed but not on production; that leaves twenty-three good producing wells, some of which are better gas producers than oil.

All of the above producers are located in the northwest area of the field and are shown on the accompanying structural map with the exception of Standard Oil Co. Vickers One No. 36 which lies just out of range of the east border.

One glance at the map and you can readily see that the Federal deep zone discovery brought to light many structural headaches as well as tough reservoir performance problems, and to think it all looked so simple when we started to drill Federal No. 1.

The writer is not going to try and explain the whys and wherefores of all the structural disturbances shown on the map. Electrical log studies, core examinations, and surface evidence indicate faulting and intense folding. Some wells pass through the Nodular shale (definite marker) twice, others only once; this was caused by thrust faults No. 1 and No. 2.

One of the reasons why certain wells are better producers than others, is fault accumulation. Another reason is the permeability and thickness of the oil sands; and another is whether wells are located on so-called gas caps (high gas-oil ratios) or black oil belts (low gas oil ratios).

The above reasons are all present in the northwest area of the Inglewood Field, and all favor the Federal and Jefferson wells more than any other group.

There are almost as many structural map interpretations of the lower beds in this field as there are wells, so the writer might as well submit one. Most engineers active in the field, agree on the approximate position of Fault No. 1 and Fault No. 2. The presence of Fault No. 3 is confirmed by 60% of the men and the presence of Fault No. 4 by perhaps only 10%. Difference of opinion makes a horse race, and there are always good factors to back up any constructive opinion, and when all the chips are down we must admit that no one person can see under-the-ground conditions better than the next. Reasonable analysis of factors governing structural control and individual well production data lead the writer to believe that Fault No. 4 or some type of structural barrier exists between Federal No. 4, the most recently completed well, and the Jefferson and Federal No. 1 and 3 respectively.

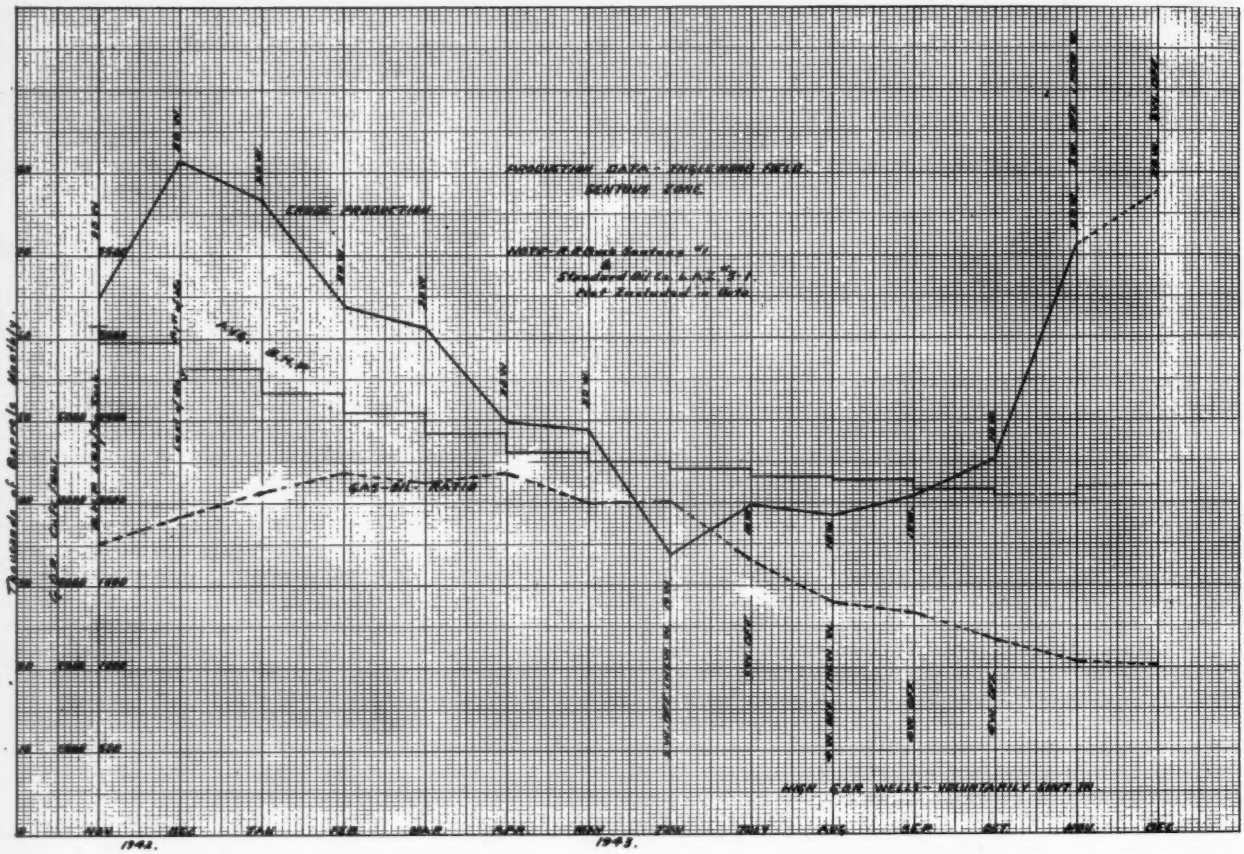
The Jefferson well came in during June, 1941, and has produced over 194,000 barrels of oil, and 341,730,000 cubic feet of gas to Nov. 1, 1943. The bottom hole pressure in March, 1942, was 3540 pounds and was probably 3700 pounds when the well came in. The B.H.P. as of Nov. 1, 1943, was estimated at 3025 pounds.

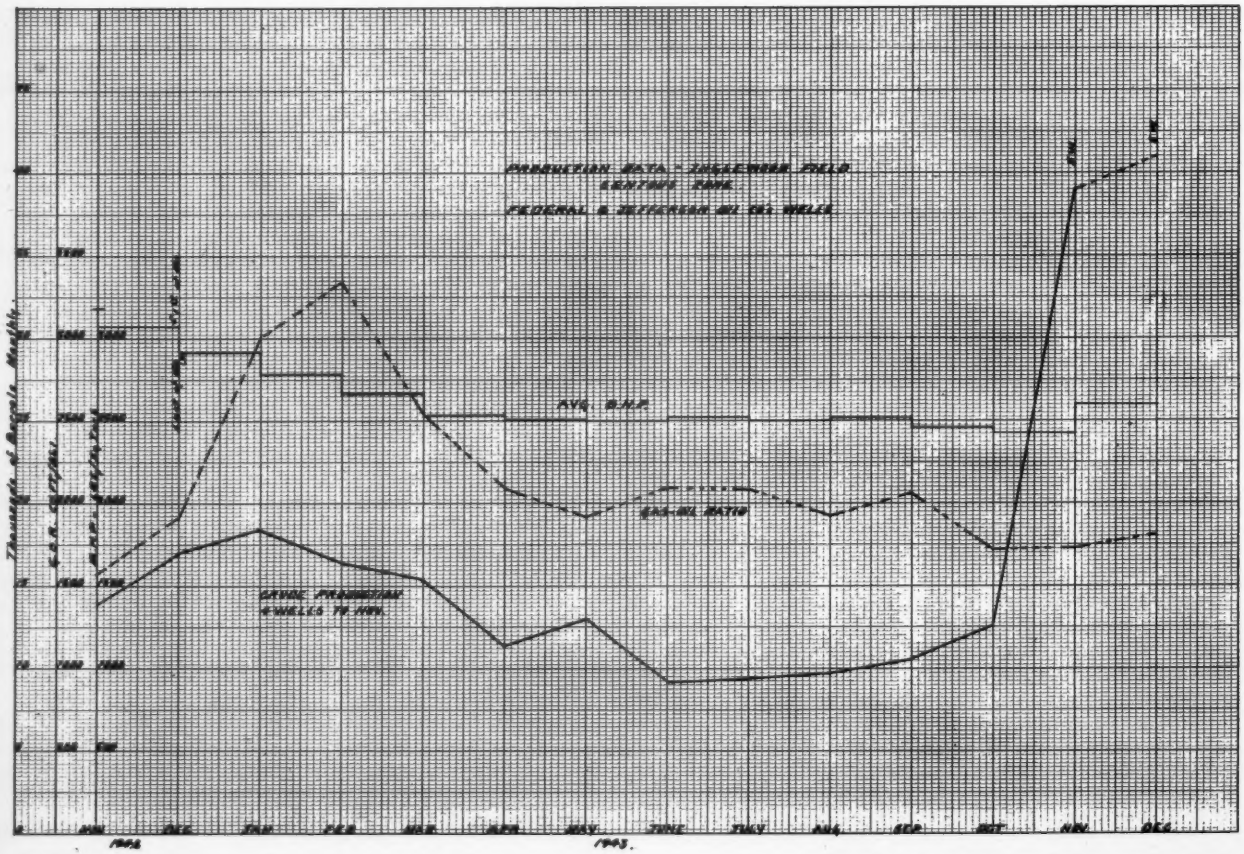
The Federal wells No. 1, 2, 3 have produced (to Nov. 1, 1943) over 406,000 barrels of oil and 961,376,000 cubic feet of gas since they came in. The B.H.P. of Federal No. 3, the best well, was 3400 pounds in March, 1942, and is estimated at 2650 pounds as of Nov. 1. 1943.

The Federal well No. 4 came in on Nov. 10, 1943, with an initial of 3050 B/D of 33.8 gravity oil and about 1500 M.C.F. of gas. The B. H.P. taken a month later was estimated to be 3430 pounds, just 110 pounds less than the B.H.P. for Jefferson No. 1 in March, 1942, which was 21 months ago. Federal No. 4's B.H.P. was 405 pounds more than Jefferson's bottom hole pressure as of Nov. 1, 1943, and approximately 780 pounds more than Federal No.3 as of Nov. 1, 1943.

The gravity of the oil produced from Federal No. 4 is one degree higher than the gravity of the oil from the Jefferson and Federal wells No. 1, 2, 3. Yet the gas-oil ratio is lower than any of the four.

If you look at the map you will see that the five wells are rather close together and the four wells, up to the time Federal No. 4 came in, had depleted the Sentous to the tune of 600,186 barrels of oil and


PRODUCTION DATA - HUNTINGTON BEACH FIELD
CENTRAL ZONE
CRUDE PRODUCTION
AVG. B.H.P.
GAS-OIL RATIO
HIGH G.O.R. WELLS - VOLUNTARILY SHUT IN
1942.
1943.


PRODUCTION DATA - HUNTINGTON BEACH FIELD
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GAS-OIL RATIO
CRUDE PRODUCTION
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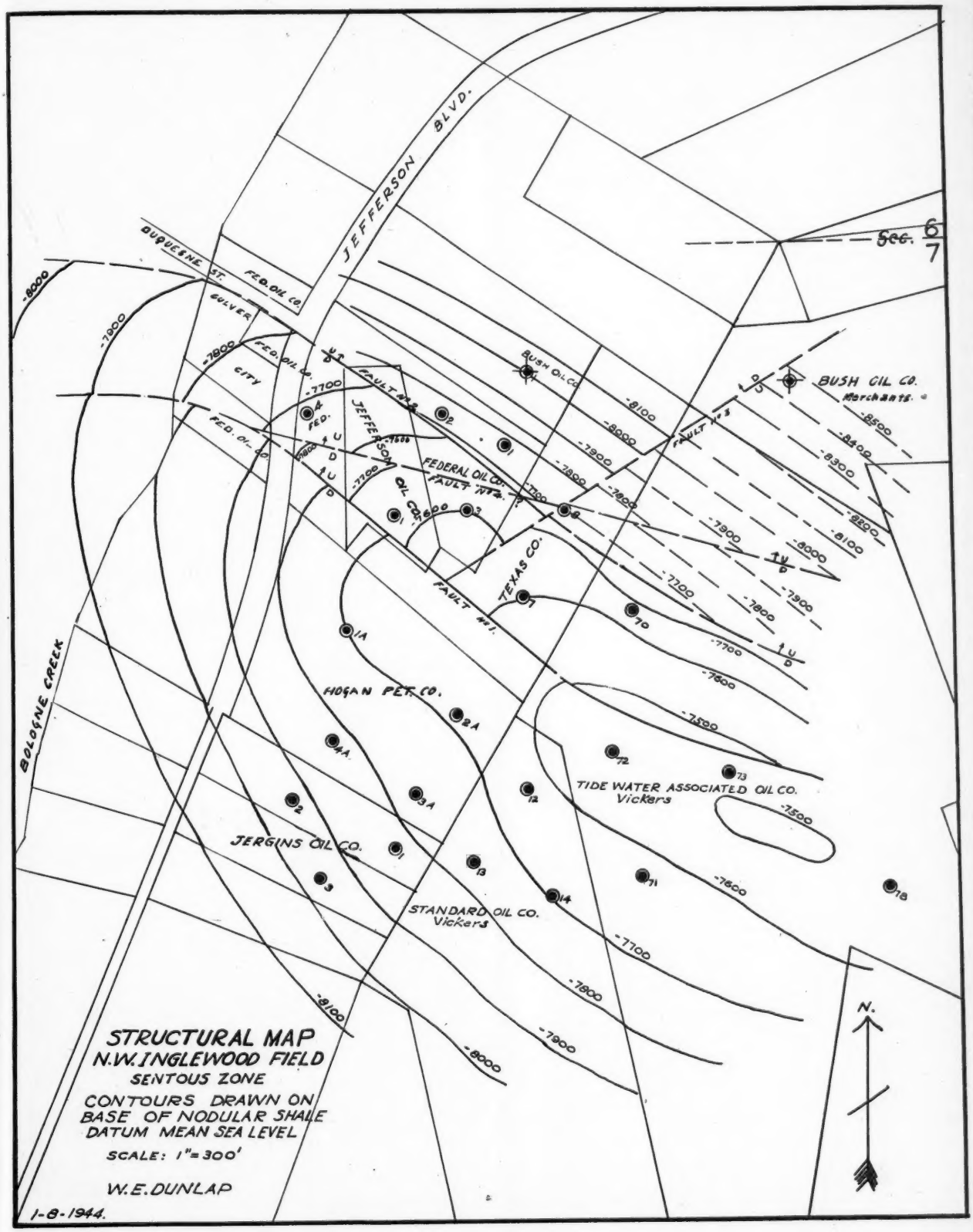

JEFFERSON BLVD.
DUPUESNE ST.
FED. OIL CO
GULVER CITY
FED. OIL CO.
FED. OIL CO.
FED.
JEFFERSON OIL CO.
FAULT #2
FAULT #3
FAULT #4
FAULT #1
FEDERAL OIL CO.
BUSH OIL CO.
BUSH OIL CO.
Merchants
TEXAS CO.
HOGAN PET. CO.
JERGINS OIL CO.
TIDE WATER ASSOCIATED OIL CO.
Vickers
STANDARD OIL CO.
Vickers
BOLOGNE CREEK
Sec. 6
7
-8000
-7900
-7800
-7700
-8100
-8200
-8300
-8400
-8500
-7600
-7500
N.
STRUCTURAL MAP
N.W. INGLEWOOD FIELD
SENTOUS ZONE
CONTOURS DRAWN ON
BASE OF NODULAR SHALE
DATUM MEAN SEA LEVEL
SCALE: 1"=300'
W.E. DUNLAP
1-8-1944.

1,303,106,000 cubic feet of gas—yet this withdrawal did not seem to affect the initial performance of Federal No. 4. You would expect from a well, located down structure, lower bottom hole pressure or at least the same reservoir pressure as nearby wells.

No interference in production performance has been noted in either Jefferson or Federal No. 3 since Federal well No. 4 came in. However, when the Jefferson well was closed in—about March, 1943—in order to run a pressure bomb, the gas-oil ratio in Federal No. 3 increased considerably.

The bottom of the Nodular shale in Jefferson No. 1 was 7642 ft. subsea level and 7677 ft. in Federal No. 4, just a 35 ft. drop in a distance of a little less than 600 ft.

Bottom hole pressure drop and gas-oil ratio figures, northeast of Fault No. 1 and northwest of Fault No. 3, have been different than the rest of the area.

The above factual data indicates, in the writer's opinion, that Federal No. 4 is on one side of the fence and Federal No. 3 and Jefferson No. 1 on the other; structural contours have been constructed on the map to illustrate the position of Federal No. 4.

Federal No. 4 was drilled to a point 565 ft. below the base of the Nodular shale, which is more than 100 ft. further than any other well producing in the Sentous zone; and found an aggregate thickness of oil sand of 348 ft. It is of course true that the additional oil measures account for part of the high initial production, and reservoir pressure; however, this factor could not compensate for the partially depleted old oil measures if there was no barrier between the wells.

Surface indications warrant the placing of Fault No. 3 on the map at the position indicated. There has been no interference as far as we know between Texas Co. No. 7 and Federal No. 3 in reservoir performance. Anyway, the two wells are different in all phases, so there must be a barrier of some sort between them or a lenticular condition in the sand members.

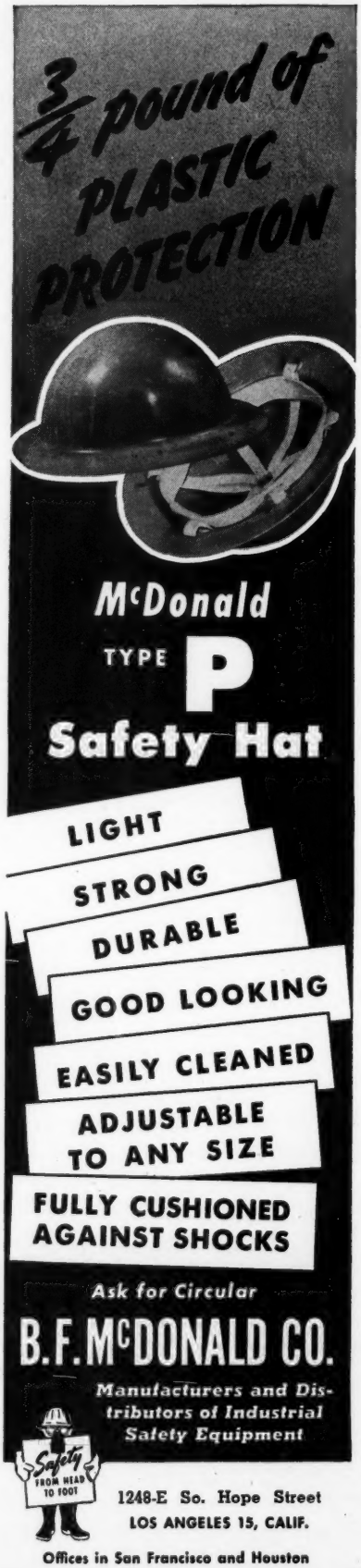
The other charts accompanying this article show some interesting production data on the Sentous zone for the year 1943. The Jefferson and Federal wells are included in the general field data and then shown separately. The reader can see that the Federal-Jefferson group are better wells, from a productive standpoint, gas-oil ratios, and rate of bottom hole pressure decline. Engineering control of reservoir performance since May of last year must be given credit for maintaining low rates of pressure declines and low gas-oil ratios for the field as a whole.

The voluntary shutting in by the major companies of most of their high gas-oil ratio wells has worked wonders with reservoir performance and I do not hesitate to say that if the rate of pressure decline for the field prior to May, 1943, continued without some control as to maximum efficient rate of daily withdrawal at least 75% of the wells would be on the pump by now and perhaps some of them dead.

The excellent results obtained in this field from voluntary cooperation in conservation engineering must be cited as a case example for consideration by those who have maintained that such field supervision and control is not necessary to maximum recovery.

To further illustrate the results of this engineering program let us review. If the rate of bottom hole pressure drop effect prior to control had continued to complete field depletion it is probable that the total barrels recovered would not have exceeded 2,920,000. However, since this control was instituted, as was indicated by common sense and good engineering practice, the total to date is already well over two million barrels and may reasonably expect to ultimately reach nearly four million barrels — more than one million barrels in excess of recovery under the old producing conditions.

This prediction is based on present and past conditions, excepting only the facts governing the performance of Federal No. 4, which has not yet produced long enough to accurately predict its performance.



The Oil Shortage

E. L. Davis
Assistant Director of Production
PAW District Number Five
Presented at Meeting of Los Angeles Basin Chapter of American Petroleum Institute, Long Beach, December 21, 1943

It does not require any particular mental strain to remember when there was too much of everything in this country—too much wheat, too much cotton, too much beef, too many little pigs, and too much oil. We accept the present shortage of most of these things as one of the normal accompaniments of the war, but for some unaccountable reason the public seems loath to accept the fact of the present oil shortage, even though it is now known that more than half the tonnage of our shipments to the theatres of war consists of petroleum in one form or another.

Part of the confusion in regard to these matters is probably the result of the publicity in the press in which the petroleum conditions of the nation as a whole are confused with those of this district. These have been and will continue to be somewhat different due to the isolation from the rest of the United States not only of the California production, but also of the normal points of utilization. Due to the cutting off of other sources of supply in the Pacific area, it has been necessary to supply a far greater area than is normal for this producing district and to provide products in unprecedented quantity. To avoid confusion as much as possible I will confine my remarks to District 5 only.

As short a time as two years ago, California producers were required to curtail their production in order to conform with the demands for petroleum at that time, which were about 620,000 B/D. Due to the method of allocation of production, based upon individual well potentials, each operator established as high a potential as possible. In most cases these estimates of potentials were probably reasonable but represented only the flush capacity of the wells involved, disregarding the performance of the oil reservoir as a whole.

After our entrance into the war, it immediately became necessary to make an appraisal of sustained capacities of California pools, and the previously estimated potential of 3,700,000 B/D was quickly deflated to a maximum efficient rate—that is, a capacity which could be sustained for a six months' period without damage to the reservoir—of 901,500 B/D. In a short time petroleum demands in this district rose from their pre-war levels to meet and pass the declining curve of our maximum efficient rate of production, with the result that although allowable production has been limited only by these maximum efficient rates, it has been necessary to withdraw substantial quantities of petroleum products from storage. Fortunately, the amount in storage at the beginning was large—too large we thought at that time—but thanks to this fact and to the early application of gasoline rationing, all essential demads for petroleum in this district, up to now, have been met.

This large storage was an accidental result of our past over-capacity to produce, but it turned out to be of inestimable value. It was immediately available in the Pacific Area when other supplies were abruptly cut off, and the lack of it would undoubtedly have delayed and handicapped very greatly military operations in this area.

Obviously no amount of storage will provide for our needs indefinitely against continued withdrawals, and the time is near at hand, if not already here, when our supplies will be inadequate to meet the military and civilian needs. When this becomes critical, it is certain that PAW, the petroleum industry committees in this district, and the operators themselves will be called upon to inform the public and its political representatives as to the facts of the situation and how the situation developed. It is my purpose to discuss these subjects with you.

In December, 1941, Conservation Order M-68 was issued by the War Production Board because of the necessity for allocating steel of which there was a critical scarcity. This steel was needed to build warships, ships of the Merchant Marine, and other products needed directly in the prosecution of the war. Moreover, the services of manufacturers normally supplying oil industry equipment were urgently needed to manufacture guns, bombs and other equipment.

The petroleum needs were being adequately supplied at that time, and the supplies were considered to be sufficient for any future demand. There appeared to be little need, therefore, for allocating steel to develop additional production of crude oil, although means of transporting oil, that is, tankers and the "Big Inch" pipe lines, became recognized needs. This M-68 order of the War Production Board has frequently been referred to by chronic viewers with alarm as a piece of bureaucratic fumbling. A recently editorial appearing in the local press said in part:

> "Slashes in gasoline deliveries to service stations threaten seriously to impair both the civilian and the war production effort . . . Ickes by his early, stubborn insistence on having the same drilling regulations for all the oil fields in the United States prevented development in California which now might be enough to plug the gap . . . It may not give us any immediate oil to point out the shortcomings of Washington. But it is an indisputable fact that if the bungling there continues, the oil shortage will be of long duration."

Actually, of course, it was not intended that all fields would be developed on the same acreage basis. No data were available to federal agencies to show the different needs of the various oil districts, and only enough steel was allocated to maintain minimum drilling programs on as uniform a basis as possible. The order provided that, as facts developed, supplementary orders and exceptions would be issued to fit different conditions. This is, in fact, what took place.

There continues to be a lack of understanding by the press and the

public in general of the oil industry's problems; for instance, one hears that the production rate of California has been appreciably increased, and that in itself is considered evidence of adequate supply. One hears very little about the demand for petroleum products. The increased production rate actually represents only the best effort of the industry to meet a continually increasing demand which has long since surpassed the available supply.

As you may know, even before December 7, 1941, there had been a great increase in the demand for fuel oil from this district, but after that time demand increased at a rate so great that about 50,000 B/D were being withdrawn from storage, although the supply of other petroleum products was adequate. Meeting this fuel oil demand was the first major problem of the industry committees and PAW of this district.

Despite the materials shortages and apparently adequate supply of oil, a forceful presentation of the fuel oil problem of this district, prepared and backed by the oil industry, industry committees, and PAW, successfully pushed through a program of reduced spacing in those California fields producing heavy oil, and provided the materials required by that program. At that time there was a tremendous scramble for steel and other supplies by war contractors and federal war agencies, each of which, to a large extent, saw only its own urgent needs. In looking back I cannot help marveling that this program of ours could have been approved at that time. That it was, is a testimony to the sincerity and forceful salesmanship of Mr. E. E. Pyles, Chairman of the Production Committee of District 5 and the solid support of the Production Division of PAW in Washington. The presentation of this problem was called the "Heavy Oil Survey," and it proved other facts besides the need for more drilling in California. It proved that the petroleum industry and a war agency could work together constructively, unselfishly, and with foresight, to provide in an efficient manner the petroleum products needed for the war. From this beginning, the industry in this district has cooperated willingly in drilling programs, planned production schedules, pipe line conversions and joint stock piles of materials in order to meet the problems created by changing demands for petroleum products and a chronic shortage of materials.

An excellent example of such constructive cooperative effort is the very fine work being done by the Field Engineering Committees in their Development, Production and Equipment Forecasts, which are reviewed and remade each quarter. These forecasts have proved of immeasurable value in predicting the amount of petroleum which will be available in the future in this district and the requirements in material, equipment, and manpower which will be necessary to maintain the required development and production programs. It is only by such foresighted planning that we can be sure the petroleum industry will be able to do its full part in the war program.

Another effort to meet the continued rising demand for fuel oil took place in July of 1942 when the Petroleum Administrator for War issued a directive to the oil refineries to increase the fuel oil yield of the crude run, by reducing the yield of civilian gasoline. For an industry formerly based on the sale of motor fuel, this was revolutionary.

So long as the demand for other petroleum products remained moderate, these measures proved reasonably affective in reducing the withdrawal of fuel oil from storage; but now that the demand for other products also exceeds the available supply, there is only one conclusion: There is simply not enough oil to go around.

One demand that was not fully appreciated was a military demand for gasoline, for both aviation use and for motor fuel. Fortunately for the war effort but perhaps unfortunately for the motorists, California oils provide large quantities of excellent base stock for aviation gasoline which are being utilized to the greatest extent possible for that purpose and correspondingly reduce the quantity of motor gasoline available for the public; also, some quantities of the gasoline fraction are being used for butadiene stock. These demands are expected to increase rather than to decrease in the future.

In an attempt to meet the increased demand and to avoid wasting the still critical steel, spacing requirements for the drilling of new wells have been progressively reduced in those fields which were likely to yield the best returns in available oil. In addition, the Engineering Subcommittee, at the direction of the District 5 Production Committee, continually reviews the rates of production in the restricted pools in order to be certain that each pool is in fact being produced at the maximum safe rate. These increased rates of production, however, have one unavoidable fault: they accelerate the decline of the production rates and make less oil available in the future. The only satisfactory solution of the problem is to provide more production by drilling more wells, where such wells will actually increase the amount of oil available, and to discover new pools.

At our present rate of use, we would need to discover and develop every year a new pool equivalent to a Wilmington or a Coalinga Nose. As you know, discoveries are far short of that goal. In this emergency we cannot afford to delay, but must do our utmost by drilling additional wildcats wherever the prospects justify such drilling and by drilling up all available undrilled reserves.

In order to facilitate such drilling, materials have been made available for exploratory drilling and for additional development. We have been assured that such material will continue to be available.

I have tried to tell you of these circumstances as they developed and of the efforts made by petroleum industry groups and PAW to solve these problems within the limitations imposed by other problems involving war materials. I personally feel, and I hope that you do also, that this industry can be proud of its record up to now; and that it will meet the present and future problems in a manner as praiseworthy.

You as oil men close to field op-

(Continued on Page 18)

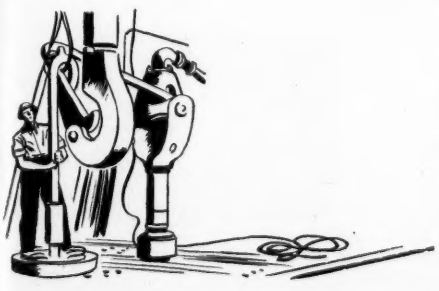
"Petroleum at War"

Speech of Hon. Clarence F. Lea
At Annual Meeting of San Joaquin Valley Oil Producers Association
Bakersfield, California
December 28, 1943

Mr. Zook's statement assumed there was a lack of understanding and a lack of appreciation by the public of the service the petroleum industry has given the country. I can understand something of that lack of appreciation. Recently, Mr. Ralph T. Zook, President of the (in part, it is) Independent Petroleum Association of America, appeared before our Petroleum Subcommittee. There are 6,000 producers in his organization. He spoke from thirty years' experience in the various phases of the petroleum industry. He began his address by pointing out that the petroleum industry has two very important conditions to deal with at this time. He declared that it was of first importance for the petroleum industry to tell its story in a manner that the public can understand.

Mr. Zook's statement assumed there was a lack of understanding and a lack of appreciation by the public of the service the petroleum industry has given the country. I can understand something of that lack of appreciation. In part, it is due to an unconscious indifference of the public that has long enjoyed the benefits of the petroleum industry. In part, that lack of public appreciation is due to a skeptical prejudice built up out of unfortunate instances in the history of the industry. The demerits of the industry have been magnified out of all proportion to its useful services. There is what we might call a political reflection of popular prejudice against the oil industry.

There are many instances in our history where an industry having once incurred public disfavor has perhaps for years found it more difficult to secure the consideration that its real problems warranted.



Under the circumstances of this hour, the public can well afford to reappraise the oil industry with a more just and discriminating care.

It is also unfortunately true that where prejudice is once established, we frequently find men seeking public favor for themselves by appealing to and fostering those prejudices, whether they be political, religious, racial, or economic.

What is that story which Mr. Zook says should be told to the American people?

The oil industry has had a development somewhat like that of gold The gold industry began with a pick and shovel and pan. Later followed expensive equipment and many scientific improvements in the methods of producing gold. Like gold, the oil industry required location, discovery, and development. In some instances fabulous wealth rewarded the efforts of the operator; in many instances, only a degree of success; in many more, failure.

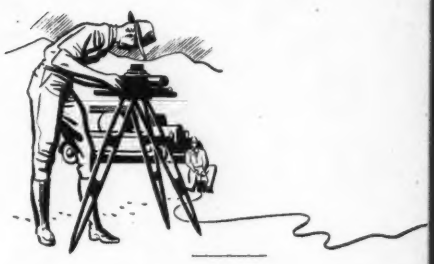
It is commonly said that more money was spent in getting gold out of the ground in California than the gold recovered was worth. To a great extent, that has been true in the production of oil.

The use of oil goes back to ancient times, but the petroleum industry, as we know it, is practically a development of this generation. We who are now living, have seen our oil resources discovered, developed, and become one of the great natural resources of the nation.

In the development of all our great natural resources, their production and supply ran ahead of the demand. So of oil.

For two recent decades we witnessed production beyond demand. Production and sales were made on a surplus market.

Encouraged by the hope of sudden wealth, there was a rush in search of oil fields. New methods of

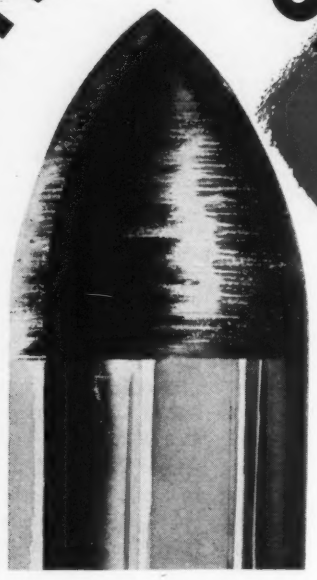


discovery and production, constant adaptations to new uses; increased demands and supplies were the regular story of these two decades.

Petroleum products made the internal combustion engine practical. It is within the last 40 years that this engine has seen its spectacular development. That made possible the airplane and the motor vehicle of every type. This brought us the auto age, the tractor, the truck, and motorized war equipment. It made our great system of modern highways a part of American life. It made the farm a better place to live. Our refineries supplied the oil which moves the navies of the world and much of its merchant fleets.

The gasoline propelled vehicle took 10,000,000 horses and mules from the fields and highways of America and supplanted them by self-powered machines. It created new industries — transformed old ones. It changed many phases of our economic and social life. It broadened and enlarged the life of the American people. These things were largely the accomplishment of the oil industry under free enterprise.

Whence came all these revolutionary developments in our American life, so far as oil is concerned? Principally from the initiative, the courageous pioneer character of the leaders of the American petroleum industry. They took the lead in discovery, in making hazardous investments, and in methods of improving every phase of the work. True, these men were not engaged in a philanthropic enterprise. They were seeking their own betterment. They invested like other business men invest. The distinctive character of their investment was, in large part, its hazardous nature and the pio-



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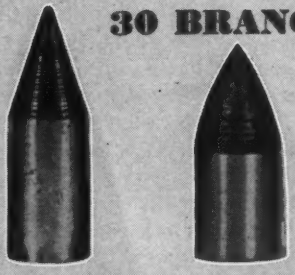

STRONGER POINTS

The ogival point provides a thicker extreme point of greatly increased strength. No chips break off the point to deflect the course of the bullet or affect penetration.

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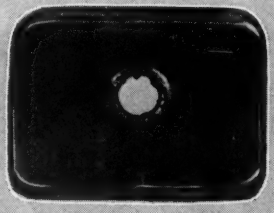


The perforation made by the ogival point bullet is round, smooth and uniform. The casing metal displaced is folded back into a tight bead. There are no sharp projections and there is much less danger of damage to tools run after perforating.

neer genius with which the industry developed and provided the needs of a great progressive nation.

We became the great producer and consumer of petroleum products. That was part of the progress of our country. It placed America on wheels.

When war came, we provided two-thirds of the petroleum supplies for the Allied nations, and we are now supplying over 90 per cent of high octane gasoline that is driving our planes to daily victories.

The story of the industry would have to include a chapter about oil in this war—how the Navy and the Merchant Marine are driven to the four corners of the sea by the power of oil—how here at home petroleum provides for 30,000,000 autos, trucks, and buses carrying on the economic life of America in support of our civilian and war effort. How this is a war of mechanized conflict with all our mobile equipment moving on the power of oil and its products.

Up to this time, the airplane has proven the most effective war instrument for our country, and it is dependent upon oil for the delivery of its destructive blows to the enemy.

With few exceptions, the petroleum industry has provided its products of the kind and at the time and place needed for this war. Our refineries from a slow start, are now providing over 90 per cent of the high octane gas that gives United Nations' planes greater speed, greater power, and longer range of operations.

It is the petroleum industry that has been mainly responsible for substitute rubber to keep our mobile vehicles in operation, when it seemed there was no other source equally capable of performing that service. The American people should recognize that whatever may be the shortcomings of the petroleum industry, it has performed a great service for their country.

Of all the branches of agriculture and industry which have so splendidly given their support to our nation in this great hour, I know of none that has supplied its products more unfalteringly than the petroleum industry.

Whatever may be the charge directed at the oil industry, it has been a great servant of the nation. That service never stood out more distinctly than tonight with the magnificent support it is giving to this and the Allied nations.

This is virtually an "oil war." When history is finally written, it may be declared that victory went to the nations best provided with petroleum products.

Unfortunately, in the political life of the country we have those who look with prejudice upon economic success. Sometimes that prejudice stands in the way of a proper solution of some of our important problems.

Sometimes, too, with covetous eyes, we over-value the benefit of wealth—its limited power to bring health, happiness and contentment.

Leland Stanford once represented California in the United States Senate. He was one of the richest men who had ever occupied such a position. He had experienced every stage of economic progress from poverty to great wealth. One day at a press conference a newspaper reporter asked him what he thought about the advantages of being wealthy. He replied, in substance, that his observation had been that there is not a great deal of difference between the man who could buy what he needed and the man who could buy what he wanted.

I do not attribute to those in the oil industry any peculiar virtues different from other classes of men. I would not say that in making and administering the laws of our country, we should exempt them from any of those restraints by which all classes of men should be bound for the common good. I would not exempt the oil industry from those lawful restrictions which are necessary to assure the consuming public the benefit of free enterprise and fair and open competition. The government has no problem more fundamental to its ultimate success than the just restraint of the abuses of power, both in our economic and political life.

What I am trying to say is that the oil industry has written a great chapter in the nation's progress, and that the story can never be fully told unless that fact is part of the narrative.

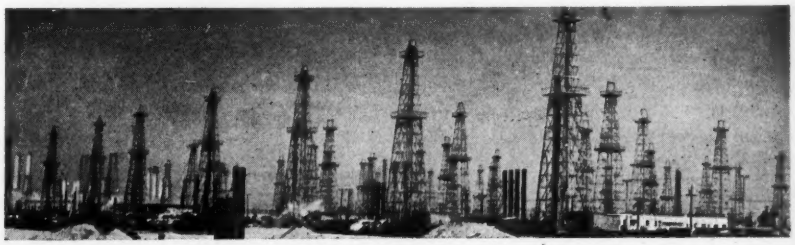
Our Petroleum Supply

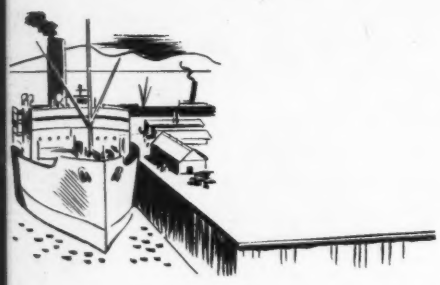
America is supposed to have about one-tenth of the oil supply of the world. That assumes that the rest of the world has nine-tenths of its petroleum supply. While the rest of the world has drilled 100,000 wells, America has drilled a million! Long ago we became the great oil producer and consumer nation of the world. We are now infinitely more dependent upon oil than any other nation.

When the great war came upon us, a substantial part of the world's oil resources were cut off from the United Nations. Our petroleum industry enabled America to come forward and supply two-thirds of all the petroleum products used in this war. We have seen 26,000,000,000 barrels of oil removed from its hiding places in the earth and its products furnished to carry on the useful activities of the American people. That 26 billion barrels of oil would fill a great reservoir a cubic mile in size. We yet have what we call "known reserves" estimated at 20,000,000,000 barrels.

For over two decades we have had a surplus market—the supply always ahead of the demand. Over that period we had an accumulating excess of reserves. It was an easy market for the consumer. In other words, we were building up reserves faster than we were consuming the product. In 1939 that changed, and for the last four years new discoveries have equaled only about half of the current consumption.

Discoveries have been less in num-





ber and less in quantity.

No one can say for a certainty that we may not yet discover great quantities of oil and, more or less, indefinitely continue our production. However, the present facts of the industry clearly show that we are reaching the peak of our production from known supplies. The facts tend to show that our American supply of petroleum products will shortly be on the decline.

The decline of our production does not mean, from the long-time viewpoint, that we're going to stop running our oil propelled vehicles. As our American supply declines, perhaps the first resort will be to the oil supplies of other lands, of which there are undoubtedly great quantities. It is likely that for some decades foreign development will largely be by American capital and American manpower and genius.

When natural oil disappears at home, we have a resort to coal and shales for synthetic supplies. Those sources can afford a supply of many years, but perhaps of an inferior quality and at higher prices. Beyond that, we have a possible resort to wood or agricultural products as a source of alcohol for power purposes. But those are problems for the future. Today we must view these synthetic sources from a speculative standpoint. We have a more definite and practical problem confronting the nation this very day. Our peace-time consumption reached 4,000,000 barrels a day. Now, with greatly curtailed civilian uses, but with increased military demands, we are consuming a greater amount with a prospect that before 1944 is ended, our demands on the present rationed basis will exceed 5,000,000 barrels a day.

Our possible supply in sight appears to be a few hundred thousand barrels per day short of meeting that demand. We have limited sources available for further increasing our domestic production, but we also have declining productions that will probably equal our increased production.

If military necessity requires it, we must further cut back on the civilian consumption. We cannot go much further in that line without injury to our domestic economy that is so necessary to support the war. We can look with some confidence to further foreign supplies. The greatest known reserves in the world are in the Persian Gulf Area. From that source and, to some extent, from South America we may reasonably anticipate some aid to reduce our load. At best, those sources are subject to contingencies and uncertainties.

No shortage of war material could more vitally impair our war effort than a shortage of oil in the closing months of the war. There is but one rational course, and that is, to give every practical support to increased production.

We have a declining production in several States. Marginal wells are being prematurely abandoned for lack of sufficient price to sustain production. Recondition and pressure methods are being withheld for the same reason.

We face a threat of shortage for war purposes, and a still further threat to the civilian supply during and following the war. Our first reliance for an adequate supply must rest upon our domestic production.

To you as producers, it may be a problem of staying in business and making both ends meet. To this nation, it is a question of providing oil for our war effort, of maintaining our civilian activities, of carrying on our domestic and war program, and a civilian supply to aid recovery after the war is over.

In other words, this question of providing an adequate supply of petroleum products in the near future is the problem of the nation.

Increasing Supply

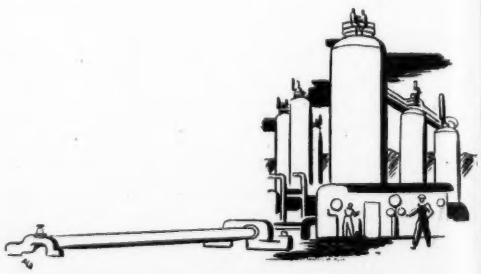
A nation that has been abundantly over-supplied with petroleum products for 20 years is now slow to accept the necessity of a positive effort to increase production. Even today we commonly hear it said that we have 20 billions of reserves to draw from(if needed, and any oil shortage is too far ahead to worry about. References are made to those reserves as if they were big reservoirs of oil that we could drain as if by turning myriad faucets.

As this audience knows, its reserves are held in the tight grip of sands thousands of feet below the surface of the earth. The 20 billion barrels of reserves can be applied to use only after a production period covering 30 or 40 years. That means that the known reserves will, in a few years, provide only a fraction of the consumptive need of any one year.

I hold in my hand a cube of oil sand in its natural condition as removed from its resting place deep in the earth. It has a porosity of 12%. It was taken from sands that cover 85,000 acres and reach a thickness of 60 feet. For production purposes they are subjected to a 2000 pounds pressure.

When the average citizen hears of oil sands, he may be reminded of the sands that wash about at the seashore, or whirl in the desert winds, but oil sands are compressed under the weight of hundreds or thousands of feet of earth. Oil sands like this cube are perfectly capable of being used as solid stone blocks for the construction of heavy buildings. The oil that comes from the well drilled into this sand must first find its way across a 10 or 40 acre lot before it can reach the surface through the drilled well. Under high pressure it must find its way to the well, even through these sands, for a distance as much as a quarter mile. That process will take 40 or 50 years.

Many years ago, three or four men fell into a deep crevice of a glacier in the Alps. Scientists estimated that about 40 years later their bodies



would be discharged at the foot of the glacier a few miles distant. That actually occurred as predicted. So our 20 billion barrels of oil must by its slow movement of 10, 20 or 40 years find its way to useful service.

Some weeks ago I listened to a radio address urging complacency as to our oil supply. The radio audience was assured that the number of discovery wells drilled this year was equal to the number of certain former years. The speaker neglected to tell his audience that while the number equaled former years, there was no comparison in the amount of oil discovered by these wells. A man who undertakes to enlighten an audience of the American people contributes nothing to them when he presents such a one-sided picture of the facts.

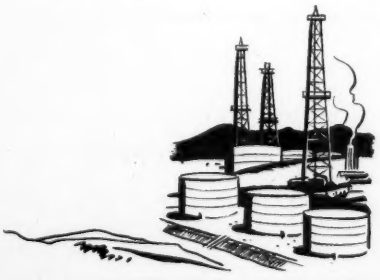
Price

The vote in Congress on the Disney Bill which looked toward an increased price to provide our supply of oil was an outstanding reflection of public sentiment realizing this as a problem of the nation. The large majority of Congress in favor of action reflected the desire of the people of this country to support our war program. It was also a reflection of the attitude of the consumers of the nation who would rather pay more for their oil than be without.

An increased ceiling price for crude oil has for two years been urged as the most essential step to secure the increased production that the country needs.

I recognize the necessity of the general policy of price ceilings to restrict runaway prices. I believe that the ceiling policy should be to control prices but not to freeze prices or to attempt to secure production under prices below the cost of production.

As to oil, as to other war products, I believe there are two fundamentals that should control: First, the price should be sufficient to induce production. To carry out that purpose, prices must be adjusted to changing conditions so as to cover costs of production.



In the second place, when the Government by price fixing deprives an industry of its free market, it should be recognized as the duty of the Government to give a reasonable price. A price ceiling below the cost of production is in the nature of a confiscation of property.

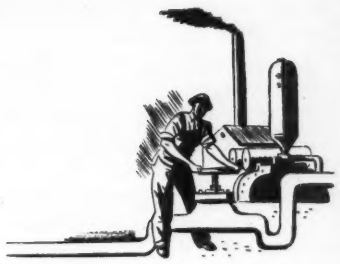
We have a system of taxes for the purpose of raising money to support the war and should rely upon that source rather than the taking of property below the cost of production.

The Price Administrator was given authority to recommend prices which, in his judgment, were "generally fair and equitable." Later we had the "Hold the line" order which prescribed a different standard. The Administrator was directed "To authorize no further . . . increased . . . except to the minimum extent required by law." The Administrator was directed "To use all discretionary powers vested in him **to prevent** further price increases." The Administrator was further authorized "To make readjustments provided that such action **does not increase the cost of living.**"

The decision of Judge Vinson as Economic Stabilizer decided against the price raise. He based his decision on the "Hold the line" order. He said, "The Price Administrator was not authorized to grant the recommended increase . . . in the price of crude oil."

The Vinson decision did not discuss the reasonableness of the price proposed, but was based on the decision that as a matter of law, it was not allowable under the "Hold the line" order.

It has been declared that the proposed raise in the price of crude would amount to $500,000,000, much of which would go to the large companies which did not need such a raise, because their income tax returns showed a profitable business under present conditions. As a matter of fact, the profits referred to



from the big companies were not in the main made by producing crude, but were rather from their refinement, transportation and distribution.

The price raise proposed amounted to less than 1c per gallon for crude. If in the aggregate it amounts to hundreds of millions of dollars, it was because the use of the oil was so great, and not because of the great increase in the price. In other words, the answer as to whether or not the price raise was justified should be a question of reasonableness, a question which the Vinson decision did not discuss. The "hold the line" order was regarded as of more importance than greater production of this essential war product.

It seems to me that any legitimate method of increasing production is now far more important than the exact price that is necessary for that purpose. Delay in adjustment creates a risk of war, as well as a handicap to the needs of peace.

Substantially every barrel of crude placed upon the market is sold below its replacement cost. Even the owner of a well-established field finds himself in the position of a farmer who paid $10,000 for his ranch and can now sell it for that, but who cannot replace it for less than $15,000. In selling his irreplacable product, he is liquidating his business.

When we think of what our service men are giving to our country in every climate and under every condition of handicap in the world, we should not be too concerned about profits and wages. When our country is engaged in a great war like this, if I thought it were practical to do so, I would support legislation to take the profit out of war from every mother's son in this country. I know that such action

would not be practical and, therefore, is not desirable.

I know and you know that under normal conditions or private ownership of property in peace time, the profit motive is the great mainspring of production. Profits to the business man are what wages are to the working man. The business man cannot take the hazard of his investment, if it offers nothing of profit.

When we engage in a great war, the question of production becomes of primary importance. It would be folly to withdraw that mainspring of production in peace-time, at the time when we most need production —and that is in war.

Today, with a few great exceptions, ceiling prices cover the cost of production in the case of nearly every industrial or food supply for war purposes. One notable exception is that of oil.

Crude oil is selling at depression prices. That depression price was established, not only during the depression, but also in a period of flush production and over-supply. The Government ceiling price adopted the depression. Since that time, the costs of production have increased enormously, yet there has been no comparable adjustment of price.

The Office of Price Administration suggested a system of subsidies to encourage discovery efforts and recondition activities. This was a concession that a higher price was needed for that class of production.

The primary need in this situation is to increase the production of oil. A price necessary for that purpose should be established. If there be certain classes of producers for whom the price proposed is excessive, let a practical formula be prepared under which such prices may be excluded and reasonable prices necessary be applied to the production of crude.

If the public understands this situation, it will be better prepared to deal justly with the petroleum industry. I have no idea that the people of the country will become the advocates of the oil industry just for the sake of the industry. I do believe, however, they are beginning to recognize the interest of the consumers and the nation itself in this situation. After all, there is no better solution to this problem than one made on the basis of the interest of the nation itself.

In the adjustment period following the war, many changes will be proposed. Many remedies will be offered. We cannot afford to forget that the economic progress of America has been founded upon private enterprise and freedom of political action. Under that plan, we have accomplished for our people the fairest rewards that have come to the people of any nation.

Let us not hastily abandon those policies under which these accomplishments have been achieved. Under this system of private ownership we have the greatest incentive for human industry, initiative, and progress. It develops that character of citizen which is the greatest asset to the nation.

We are going to face a period of readjustment after the war. Millions of men and women must be taken out of the military services and into the peaceful pursuits of the country. Millions must be taken from war production into peace time production, if we are to maintain our standards of living and a reasonable degree of prosperity. There is only one way we can do that, and that is by the employment of both labor and money. That will require the employment of private capital, on a reasonable income basis, and the private employment of labor.

We hear of much planning for the post-war period. It is well that we should plan in advance. But too many are placing too much emphasis on spending money instead of earning it.

In my judgment, one of the greatest steps our government could take to prepare us for that readjustment period would be to invite private capital into constructive business enterprises and by words and deeds assure investors that they are going to get fair treatment from their government.

One fortunate thing is that however aggressively selfish a man may be, he can get no benefit out of his accumulations without benefiting someone else. However much a man accumulates, he cannot enjoy it unless he spends his money for somebody else's materials or somebody else's labor, and he cannot do that without helping others.

The Oil Shortage

(Continued from Page 12)

erations know best where wells can be drilled which will yield favorable returns and I urgently request that all such wells be drilled without delay. As you know, all drilling authorized by the PAW is on a basis as uniform as possible, so as to minimize steel expenditure, provide proper drainage for the oil pools and be fair to each operator in proportion to his interest. Therefore, any proposals for drilling not in line with the spacing provisions of Supplementary Order No. 4 to Petroleum Administrative Order No. 11, should be on drilling units of such size as would be justified for all other wells in the same pool. Also, such drilling should provide the greatest returns possible in oil for the amount of steel expended, since steel remains critically scarce. In order to be desirable, one barrel a day of oil should be made available for each ton of steel expended.

The District Office has been empowered to grant exceptions to the SO-4 order on reduced spacing standards where justified by merit. Inability to conform with the standards of that order should not, therefore, stand in the way of meritorious drilling.

In the shortage which faces us, it is our obligation as individuals as well as our obligation as an industry, to make the greatest effort of which we are capable in meeting the anticipated demands for petroleum.

We must not fail to do that, and I am sure we shall not.

Buy Bonds

Field Development

Los Angeles Basin

El Segundo "Cat" In Shale

Against the sand dunes northwest of the town of El Segundo, the Pauley Brothers Loftus No. 1 is drilling ahead in shale below 3,000 ft. The first whipstock was set at 1285 ft. to direct the hole under the Los Angeles City sewer farm to the southwest. Gas showings were noted on the ditch at 1275 ft. The try is located in section 11-3s-15w.

Outpost Well Coring Oil Sand

Standard Oil Co. Frew No. 1-2, westerly outpost well to the Aliso Canyon field, is coring ahead in oil sand with streaks of shale below 8500 ft. Located in section 29-3n-16w well found the top of the lesoa zone at 8300 ft. With the bottom of the hole at 8436 ft. a formation tester was set at 8286 ft. to test the upper 136 ft. of zone. The valve was open for 30 minutes and 5,000 ft. of fluid entered the drill pipe of which 2400 ft. was 18° oil and the balance oily gassy mud.

Whittier "Cat" Coring Shale

South of the old Whittier field in section 34-2s-11w, the C. C. M. O. Co. East Whittier Comm. No. 1-1, is coring ahead in hard sandy shale below 4900 ft. It is reported that the Foix zone marker was picked up several hundred feet higher than it was expected. However no showings have been found in the hole to date.

Gen. Pet. To Drill Buena Park Area

General Petroleum Corp. has derrick built and is installing boilers and machinery preparatory to drilling Heath No. 1. The try is located on the south side of Firestone Blvd., about one mile west of the town of Buena Park, in section 34-3s-11w. The hole will probably be drilled below 10,000 ft.

Shell Co. Testing Shallow Showings

Shell Oil Co. Orange No. 24, westerly outpost well in the Brea Canyon field, is making a production test of showings found above 1700 ft. The hole was cored to 1850 ft. and plugged back to 1705 ft. A string of 13⅜ inch casing was cemented at 1640 ft. and a 5½ inch perforated oil string landed at 1705 ft. On test well pumped and flowed by heads at a 12 barrel per day rate with 150,000 cu. ft. of gas. The well is now standing shut in while preparations are being made to pull the oil string and deepen.

5 Point Well Redrilled

Nicolai and Becker Fee No. 1, which in the original hole found most of the upper Ashton zone faulted out, has been redrilled and deepened to 3809 ft. A 4¾ inch combination liner including 40 ft. perforated has been landed on bottom and is now standing cemented through perforations. The oil sand was found to be in place in the new hole, which was directed about 150 ft. west of the surface location.

Beloil Finds Jones Sand Wet

Beloil Corp. Scouller No. 1, redrilled a straight hole and found the Jones sand to be wet at this location. Located on the northwest corner of 18 th Street and Walnut Ave., the hole was originally drilled

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Athens	J. Paul Getty, Westmore	1	2, 3-14		Location
Aliso Canyon	Barnsdall-Bandini Pet. Co., Roosa	1	29, 3-16	1109	Drilling
	Standard Oil Co., Frew	1-2	29, 3-16	8485	Testing
	Standard Oil Co., Del-Aliso	1	29, 3-16		Grade
Del Valle	Standard Oil Co., N.L. & F.	3-1	19, 4-17	7576	Rng. elec. log.
Dominguez	Cont. Expl. Co., Del-Amo	1	8, 4-13		Location
Downey	T.W.A.O. Co., Downey	10-1	4, 3-12		Location
El Segundo	E. W. & H. R. Pauley, Loftus	1	11, 3-15	2985	Drilling
Norwalk	Gen. Pet. Corp., H. B. Allen	1	12, 3-21	10360	Abandoned
Puente	Horace Steele, Opr., Kenwood	1	17, 2-10	4275	Idle
	J. C. Drilling Co., Kelso	1	12, 2-10	3442	Idle
Sylmar	Richfield Oil Corp., T.I.T.	1	19, 3-15	6185	Drilling
Towlsey Canyon	Haws & Ellsworth, H. E.	1	8, 3-16		Location
Whittier	C.C.M.O. Co.,E.Whittier Comm.	1-1	34, 2-11	4824	Drilling
	Union Oil Co., Sansiena	14	32, 2-10		Location
	Orange County				
Buena Park	Gen. Pet. Corp., Heath	1	34, 3-11		Rig
East Coyote	Barnsdall O.Co.,Sunny Hills Ranch	1	22, 3-10	4180	Drilling
	San Bernardino County				
Chino Hills	Wm. Y. Lee, Corehole	2	21, 2-8	1500	Coring
Soquel Canyon	A. F. McCain, Soquel	1	6, 3-8		Rig

by the Superior Oil Co. and completed from the Main sand at the depth of 4395 ft. The hole has now been redrilled to 3450 ft. and found only water in the Jones sand. The hole was plugged back to 1789 ft. and the operator is preparing to make a production test of the Tar sand.

Signal Completes Outpost Well

At the northwest end of the old field at Huntington Beach Signal Oil and Gas Co. has completed the second well in the fifth line of wells drilled on the northwest flank of the field. Bolsa No. 51 was completed flowing an initial production of 570 barrels per day of 29 gravity oil. Total depth is 3709 ft. with a combination string of 6⅝ inch casing landed at 3699 ft. and cemented through perforations at 3166 ft. Bolsa No. 52-A was completed a few weeks ago and established a potential of over 800 barrels per day. The completion of these wells extends the known producing limits of the field over 800 ft. to the northwest.

Standard Completes El Segundo Gas Well

Standard Oil Co. Gough No. 15, shallow gas test in the old El Segundo field, was completed for an initial rate of 6000 MCF of dry gas per day. Total depth is 4329 ft. with 5½ inch casing shut off at 4305 ft. and a 4 inch perforated liner landed at 4328 ft. This is the third shallow gas well to be completed by this operator in this field. The total aggregate gas production for the three wells is something in excess of 15,000 MCF per day. No further development of this sand is contemplated at this time.

Texaco Testing DeSoto Zone

The Texas Co. Field No. D-1, deep test well on the north side of the Long Beach field, is swabbing a small amount of oil and mud from the DeSoto zone. The hole was drilled and cored to a total depth of 10,324 ft. with the top of the De Soto zone being found at approximately 9250 ft. A string of 5½ inch casing was cemented at 9239 ft. and a 4 inch liner, including 1114 ft. perforated landed at 10,323 ft. The hole has now been swabbed for eight days, with about 10 barrels per day of gross fluid being recovered, while the fluid level is staying down around 8,000 ft. with steady swabbing. The operator intends to pull the two inch tubing, remove the packer and place well on the pump. The hole is located northwest of the intersection of Spring and California Streets.

Extension Test Shows Promise

Bankline Oil Co. Orduno No. 103, northwestly outpost well in the Del Valle field, is running an electric log to pick the setting point for a water string. Located in section 18-4n-17w, hole was drilled and cored to a total depth of 4596 ft. Two formation tests have been run. The first, to test showings between 3950 ft. and 4000 ft., recovered 500 ft. of 30° gravity oil, while the second test, made of the interval 4400 ft. to 4462 ft. recovered 370 ft. of gassy mud. The operator now plans to set a string of casing and attempt to place well on production. The completion of this well will extend the known producing limits of the field about 800 ft. to the northwest.

Hathaway Abandons Oak Canyon Outpost

The Hathaway Co. U. S. A.-VC No. 1, was abandoned after coring to a total depth of 3209 ft. Located north of the producing limits of the field, the section penetrated was found to be entirely devoid of either oil or gas. The hole is located in section 31-5n-17w. Southeast of this well in section 32 the Western Gulf Oil Co. is preparing to drill L. W. Gilmour Fee No. 1, on the northerly flank of the field.

Simi Test Coring Shale

Southeast of the town of Simi, Luther T. Mayo Montgomery No. 1, is coring ahead in steeply dipping Eocene shale at 1770 ft. No showings have been encountered to date. The well is located in section 16-2n-18w, approximately one mile southeast of the town of Simi.

Continental Spuds Santa Maria Outpost

Continental Oil Co. Davis No. 1, outpost well east of the Santa Maria Valley field, drilled to 1600 ft. in gray Sisquoc siltstone and is now fishing for stuck drill pipe. Located on section 28-10n-33w the well was spudded in on December 29, 1943.

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BUY WAR BONDS

Coastal and Northern Districts

Richfield Completes Butte County "Cat"

Richfield Oil Corp has discovered a new gas field in the Chico Creek area of Butte County. Chico No. 1, was completed on January 2, 1944, and tested at various rates from 3000 to 5000 M.C.F. This is not considered to be an indication of the potential of the well, as the zone being produced indicated a production of 13,000 M.C.F. on an open hole formation test. The hole was drilled and cored to a total depth of 7005 ft. and found top of the basement complex at 7000 ft. A 4¾ inch liner was cemented on bottom and all showings were tested in stages. The hole was finally plugged to 4798 ft. and completed from the interval 4365 ft. to 4390 ft. Well is now standing shut in with pressures equalized at 1925 pounds. The well is located in section 17-21n-1e, approximately two miles southwest of the town of Chico. About two miles northwest of this well, in section 6 of the same township and range, the operator has staked location for another test of the area.

Wiley Canyon Test Abandoned

Wilshire Annex Oil Co. Ventura Realty No. 1, has been abandoned at the total depth of 5074 ft. There were no showings of oil or gas in the Sespe section penetrated at this location. The hole is located in section 1-3n-19w, about two miles east of the easterly producing limits of the Shiells Canyon field.

Union Deepening At Lompoc

Union Oil Co. Purisima No. 18, has been recompleted on the pump for an initial production of 170 barrels per day of 19° gravity oil cutting 5.0%. This old producing well was deepened with cable tools through 8¼-inch casing from the former total depth of 2630 ft. to 2762 ft. A 6⅝ inch liner with 221 ft. of perforated on bottom was landed at 2762 ft. The operator is currently performing the same type of job on Purisima No. 17, and has plans for several more.

Pinole "Cat" Abandoned

In the Pinole area of Contra Costa county the Standard Oil Co. has abandoned Oursan Comm. No. 1. The well bottomed in beds of Cretaceous age and failed to find either oil or gas in the Eocene. The try is located in section 6-1n-3w, about six miles east of the town of Richmond.

Ord Bend Gets Test

The Superior Oil Co. is rigging up preparatory to drilling Capay Grant Comm. No. 1, about 5 miles northwest of its recently completed gas well, Knight No. 1. The well is located 1878 ft. north and 3300 ft. west from the northeast corner of subdivision three of the Glenn Ranch Survey, of Rancho Capay. Or approximately 800 ft. north and 2000 ft. east from the southwest corner of projected section 12-21n-2w.

San Miguel Testing

San Miguel Oil Corp (Edward F. Delaney) Todd No. 1, is preparing for a production test of heavy oil showings found in Miocene shale between the depths of 3280 ft. and 3592 ft. Located in section 6-1n-21w, east of the town of Oxnard, hole was bottomed in shale at 3789 ft. and plugged back to 3592 ft. The operator is now running four inch tubing and a one inch distillate line preparatory to placing well on the pump. In this same section, Exeter Oil Co. Lennox No. 2, has been bottomed in volcanics at 2572 ft. and has 8⅝ in. casing standing cemented at 2485 ft.

Fillmore "Cat" Redrilling

Standard Oil Co. Fillmore-Comm. No. 2-1, deep test well, is sidetracking drill pipe which was stuck on bottom at 11,091 ft. This is the second time the drill pipe stuck since setting string of protective casing at 10,728 ft. The operator is withholding all information as to the section penetrated. The hole is located in section 24-4n-20w, northwest of the town of Fillmore.

COASTAL COUNTIES WILDCATS

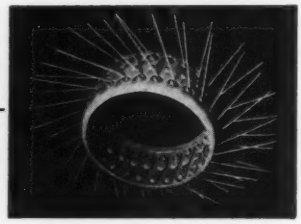
Area	Well	No.	Section	Depth	Status
S. M. Valley	Continental Oil Co., Davis	1	28, 10-33	1600	Fishing D.P.
Sisquoc	J. I. Anderson, Elliott	1	6, 9-32	2450	Abandoned
	Ventura County				
Bardsdale	San Marino Oil Co., Elkins	1	7, 3-19	2244	Completed
Camarillo	Camarillo Oil Co., Camarillo	2	32, 2-20	2261	Drilling
	Jos. Shuck, Shuck	1	28, 2-20	292	Drilling
Fillmore	Standard O. Co., Fillmore Comm.	2-1	24, 4-20	11091	Drilling
Happy Camp	Cal Camp Oil Corp., Harrington	1	21, 3-19		Location
Oxnard	Edward F. Delaney, Todd	1	6, 1-21	3789	Rng. tubing
	Exeter Oil Co., Ltd., Lennox	2	6, 1-21	2572	Stdg. cem.
	Hub City Pet. Co., Chase	1	6, 1-21	1955	Idle
Piru	Pac. West. Oil Corp., Temescal	17	4, 4-18	3410	Completed
Santa Paula	J. J. Stevens, Corehole	1	31, 4-20	2483	Idle
Sespe	Merchants Pet. Co., Cochrane	7	1, 4-20	1750	Drilling
	Volunteer Pet. Co., Tar Creek	3	28, 5-19	1682	Drilling
Shiells Canyon	Los Nietos Co., Elkins	2-1	5, 3-19		Location
Simi	Mayo Oil Co., Montgomery	1	16, 2-18	1770	Drilling
South Mt.	Cambria Oil Co., Well	1	13, 3-21		Location
	F. E. Fairfield, S. M.	1	19, 3-20	4991	Idle
Timber Canyon	Geo. H. Roberts, O'Leary	1	29, 4-20	18	Idle
Wiley Canyon	Wilshire Oil Co., Ventura Realty	1	1, 3-19	5074	Abandoned

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Butte	Richfield Oil Corp., Chico	1	17, 21n-1e	7005	Completed
Contra Costa	Standard Oil Co., Oursan Comm.	1	28, 2n-3w	4270	Abandoned
Glenn	Gen. Pet. & Union O. Co., Orland Comm.	8-1	11, 21n-3w	2379	Drilling
	Richfield Oil Corp., Afton Comm.	1	2, 18n-1w	3076	Drilling
	Superior Oil Co., Capay	1	12, 21n-2w		Rigging up
San Joaquin	Richfield Oil Corp., East Stockton	1	5, 1n-8e	6370	Drilling
	Standard Oil Co., Fairoaks Comm.	1	19, 1n-7e		Idle
Solano	Standard Oil Co., Honker Comm.	1A	25, 3n-1w	8304	Redrilling
	Standard Oil Co., A. O. Stewart	1	25, 3n-1w	8295	Drilling
	Standard Oil Co., Suisun Comm.	3	5, 3n-1w		Bldg. racks

Outpost Completed

Richfield Oil Corp. Belridge No. 4, northerly outpost well in the North Belridge field, was completed on New Years day for an initial production of 456 barrels per day. Located in section 21-27s-20e, hole was drilled and cored to a total depth of 9688 ft. A formation test made of the "Y" zone near bottom recovered gassy mud with a small amount of oil. The hole was then plugged to 9005 ft. and well completed from the "R" zone between the depths of 8473 ft. and 8550 ft. Current production is 117 barrels per day of 33 gravity oil cutting six per cent mud, flowing through a 12/64 in. bean with 1900 pounds tubing pressure and 2100 pounds casing pressure. Gas production is 1,100 M.C.F. The completion of this well extends the known producing limits of the field about 1000 ft. to the northwest. Southeast of this well the Tide Water Assoc. Oil Co. is drilling ahead below 5600 ft. in Well No. 34-21.



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FREE: "Index for Well Completions"

Write for your FREE COPY of "Index for Well Completions" by Jesse E. Hall, Sr., inventor of reversible scratchers and spiral casing centralizers.

This valuable paper deals with cementing practice in setting through zones, on how to make an exact science of all sorts of well cementing under conditions once considered hazardous and uncertain, and explains why it is a mistake to set perforated or gravel pre-pack liners without the use of Extra Long Bristle Weatherford Scratchers.

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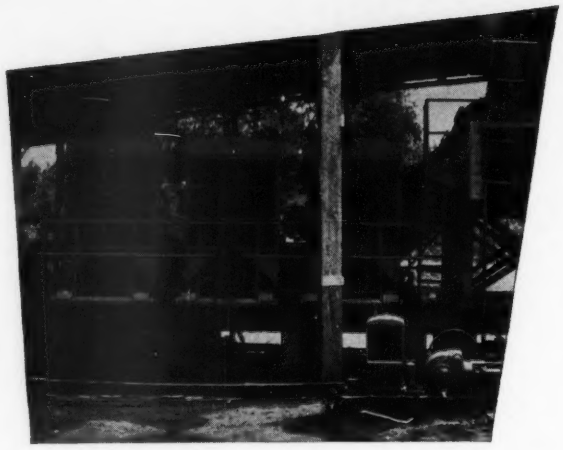

Drilling to 10,300 ft. on Exploration—

WITH WAUKESHA POWER

Fifteen miles west of Natchez, Mississippi, and the same distance south from another oil discovery—Loffland Bros., contractors, drilling for the California Company, struck a heavy flow of gas at the 10,300 ft. level.

Loffland Bros. are using one of the best equipped, most modern of the large type mechanical power rigs—a Type 125 Consolidated—with three big, butane burning Model 6-LROU Waukesha Oil Field Power Units coupled through hydraulic transmission to the mud pumps, rotary table and draw works.

These 8½ in. x 8½ in., 2894 cu. in. displacement Waukesha Engines develop over 400 hp. *each* for peak demands—fast, flexible power, with responsive smoothness that deep drilling demands. Like all Waukesha Oil Field Engines, their upkeep is low, and their fuel and lubricant requirements are low.

And *right now*—for the uninterrupted oil field operation that's so vital to victory—Waukesha *dependability* is appreciated more than ever. There's a Waukesha Engine for every oil field need—410 hp. to 10 hp., gas or gasoline . . . 310 hp. to 30 hp., diesel fuels. *Get Bulletin 1079.*

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"Why shouldn't I buy it? I've got the money!"

Sure you've got the money. So have lots of us. And yesterday it was all ours, to spend as we darn well pleased. But not today. Today it isn't ours alone.

"What do you mean, it isn't mine?"

It isn't yours to spend as you like. None of us can spend as we like today. Not if we want prices to stay down. There just aren't as many things to buy as there are dollars to spend. If we all start scrambling to buy everything in sight, prices can kite to hell-'n'-gone.

"You think I can really keep prices down?"

If you don't, who will? Uncle Sam can't do it alone. Every time you refuse to buy something you don't need, every time you refuse to pay more than the ceiling price, every time you shun a black market, you're helping to keep prices down.

"But I thought the government put a ceiling on prices."

You're right, a price ceiling for your protection. And it's up to you to pay no more than the ceiling price. If you do, you're party to a black market deal. And black markets not only boost prices—they cause shortages.

"Doesn't rationing take care of shortages?"

Your ration coupons will—if you use them wisely. Don't spend them unless you have to. Your ration book merely sets a limit on your purchases. Every coupon you don't use today means that much more for you—and everybody else—to share tomorrow.

"Then what do you want me to do with my money?"

Save it! Put it in the bank! Put it in life insurance! Pay off old debts and don't make new ones. Buy and hold War Bonds. Then your money can't force prices up. But it can speed the winning of the war. It can build a prosperous nation for you, your children, and our soldiers, who deserve a stable America to come home to. Keep your dollars out of circulation and they'll keep prices down. The government is helping—with taxes.

"Now wait! How do taxes help keep prices down?"

We've got to pay for this war sooner or later. It's easier and cheaper to pay as we go. And it's better to pay more taxes NOW—while we've got the extra money to do it. Every dollar put into taxes means a dollar less to boost prices. So . . .

Use it up . . . Wear it out . . . Make it do . . . Or do without

A United States war message prepared by the War Advertising Council, approved by the Office of War Information, and contributed by the Magazine Publishers of America

San Joaquin Valley

Valley Outpost Plugging Back

The Pauley Bros. well No. 21-29, southeasterly outpost to the Raisin City field, is plugging back and testing by stages. Located in section 29-15s-18e, hole was bottomed in Temblor sand and shale at 5698 ft. The hole was plugged back to 5470 ft. and a formation test made of the zone from 5406 ft. to 5470 ft. With the valve open for thirty minutes, 3400 ft. of salt water and 80 ft. of sand entered the drill pipe. The hole is now being plugged back preparatory to testing the interval from 4868 ft. to 4873 ft.

Extension Test In Kreyenhagen

East of the Northeast Coalinga Eocene field The Texas Co. is coring ahead in Kreyenhagen shale in S. P. No. 58-21. With the hole now below 9300 ft. cores are being taken in an attempt to pick up the top of the Eocene sand. An electric log was run at 9200 ft. to determine the point at which coring would be started. The hole is located in section 21-19s-16e, approximately two miles east of the easterly producing limits of the Northeast Eocene field.

Texas Co. to Drill Buttonwillow Cat

Approximately one mile northwest of the Buttonwillow gas field, The Texas Co. is rigging up preparatory to drilling Bowerbank Unit II No. 8 B. The location reported is 662 ft. north and 663 ft. east from the center of section 8-29s-24e. This location falls about one half mile southeast of the California Explorotion Co. Dougherty-Salisbury No. 1, which was drilled in 1939 to the total depth of 12,989 ft.

Deep Test Abandoned

Standard Oil Co. McPhee No. 37, deep test well in the Cymric area, has been abandoned after the hole was junked with drill pipe. Located in section 36-29s-21e the hole was drilled and cored to the total depth of 8143 ft. The drill pipe was twisted off and wash pipe stuck over the fish. All attempts to recover the wash pipe failed and hole was abandoned with the top of the second fish left at 3270 ft. There were no showings reported at any point in the hole. Top of the Miocene was found at 1403 ft. and top of the Carneros sandstone at 6540 ft.

Southeast from this well, in section 7-30s-22e, the Standard Oil Co. is drilling and taking spot cores below 2000 ft. in well No. 113-7.

Mount Poso Cat Completed

Approximately two miles west of the westerly producing limits of the Mount Poso field, Dwight G. Vedder has completed his well No. 1-18. Located in section 18-27s-28e, well metered an initial rate of 4,800 M. C. F. of dry gas per day with 170 pounds tubing pressure and 640 pounds casing pressure. Hole was originally drilled into the Vedder sand and a production test made of the zone from 2440 ft. to 2470 ft. No oil was recovered on the test,

SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
	Fresno County				
Coalinga	The Texas Co., S. P.	58-21	21, 19-16	9306	Drilling
Jacalitos	Standard Oil Co., Well	67-17E	17, 21-15	4851	Drilling
	Standard Oil Co., Wells Fargo	1	30, 21-15		Location
Lanare	Amerada Pet. Corp., Cal.-Lds.	65-15	15, 17-18	8200	Rng. elec. log.
Nicholson	Shell Oil Co., Inc., S. P.	73-35	35, 15-15	7823	Drilling
Polvadero	Standard Oil Co., Bourdieu	1A	1, 21-16	10299	Fishing
Raisin City	Pauley, E. W. & H. R., Well	21-29	29, 15-18	5698	Testing
	Shell Oil Co., Inc., San Joaquin	2-1	9, 15-17	5151	Drilling
Riverdale	Amerada Pet. Corp., Furtado	55-36	36, 17-19	7336	Drilling
	Kern County				
Antelope	Etienne Land, Occidental	3-NW-30	30, 26-19	1496	Idle
Ant Hill	Amerada Pet. Corp., S. P.	2-15	15, 29-29	3150	Drilling
Belridge—South	C.C.M.O. Co., Temblor	36-1	36, 28-20		Foundation
Bowerbank	The Texas Co., Bowerbank Unit II	8B	8, 29-24		Rigging up
Comanche Point	T. W. Burnham, Chiquita	2	34, 12-19	2250	Idle
Cymric	Standard Oil Co., McPhee	37	36, 29-21	8143	Abandoned
Edison	Tracy Harkness Seale	2	5, 30-29	4185	Drilling
	J. Paul Getty, Portals	5	5, 30-29	4003	Abandoned
	J. Paul Getty, Hoagland	1	8, 30-29		Foundation
	Seaboard Oil Corp., Garrison-Davis	1	30, 29-29	4103	Abandoned
Dyer Creek	Shell Oil Co., Cairns	1	14, 26-27		Location
Elk Hills	Capital Co., Tupman	1	24, 30-24		Location
	Pacific Western and G. F. Getty, Transport	64	26, 30-24	10160	No report
Edison, SE	Judy K Oil Co., El Tejon	1	22, 30-30		Rig
Gould Hills	Union Oil Co., Richardson	53	18, 29-21		Foundation
Grapevine	Kern Line Oil Co., Well	1	19, 11-19	9200	Fishing
McClung	Continental Oil Co., KCL	H-1	18, 30-26	8495	Redrilling
	Continental Oil Co., Easton	1	33, 29-26	7448	Drilling
McKittrick	Standard Oil Co., Well	113-7	7, 30-22	1960	Drilling
	Standard Oil Co., Well	22-35	35, 30-22	3710	Abandoned
Mt. Poso	G. C. Nelson, Nelson-Hooper	1	36, 26-27	1685	Drilling
	D. W. Vedder, Well	1-18	18, 27-28	2643	Completed
	J. T. Wilcox, Zanetti	1	17, 28-28	3210	Idle
Mt. View	Di Giorgio Fruit Corp., Well	48-10	10, 21-29	6419	Testing
Poso Creek	Butler Bros. Oil Co., Butler	1	14, 27-27	1293	Suspended
	Golden Bear Oil Co., New Hope	7	29, 27-27		Rig
	Pac. West'n O. Corp., Enas Fee	36	21, 27-27	2070	Bailing
	Pac. West'n O. Corp., Enas Fee	38A	21, 27-27		Foundation
Rosedale	Western Gulf Oil Co., KCL-A	37-14	14, 29-26		Foundation
Round Mt.	Bandini Pet. Corp., Signal Mills	1	24, 28-28	2487	Redrilling
	Gen. Pet. Corp., Railroad	3	23, 28-28		Rigging up
	Harp & Brown, Olcese	2	17, 28-29		Rig
	Signal Pet. of Calif., S. P.	1	25, 28-28		Idle
	The Texas Co., KCL	1-13	13, 28-28		Location
	Wilshire Oil Co., Hartfield	1	32, 28-29		Grade
Rosedale	Western Gulf Oil Co., KCL-A	37-14	14, 29-26		Rig
Shafter	T.W.A. Oil Co., Shafter Comm.	86-7	7, 28-25	9140	Drilling
Tehachapi	E. G. Cummings, Poor Boy	1	31, 32-32	1411	Idle
Temblor	B. F. Delanty, Well	69-A-1	36, 29-20	235	Abandoned
	B. F. Delanty, Well	69-A-1A	36, 29-20	100	Drilling
	Madera County				
Herminghaus	The Texas Co., Gill	61-20	20, 13-16	5813	Completed
Firebaugh	The Texas Co., Moffat	55-7	7, 12-15		Rig
	Merced County				
Los Banos	Shell Oil Co., Inc., Alberti	75-11	11, 10-11	4305	Abandoned

but showed a blow of 3,800 M. C. F. of dry gas. The flow was killed and hole deepened to the lower Vedder sand in search of some oil production. Only gray sand was found in the lower Vedder zone which was topped at 2629 ft. The hole was then plugged back to 2500 ft. and a 4¾ inch perforated liner landed at that depth. At present the well is standing shut in while awaiting a decision from the P. A. W. Tubnig and casing shut in pressures have equalized at 650 pounds.

Approximately 300 ft. west of the discovery well the operators well No. 2-18 has been bottomed in gray sand at 2557 ft. and has 6⅝ in. casing standing cemented over the Vedder sand at 2468 ft. Top of the Vedder zone was found at 2470 ft. and the top of the gray sand at 2513 ft. Southeast of these two wells the operator's well No. 3-18 has 8⅝ in. casing standing cemented at 2410 ft. Top of the Vedder sand was found at 2415 ft. and the hole is bottomed in oil sand at 2462 ft.

Mt. View "Cat" Testing

Di Giorgio Fruit Co. Well No. 48-10, extension test south of the Mountain View field, is plugging back and testing by stages from a total depth of 6418 ft. Top of the basement rocks was found at 6405 ft. A string of 6⅝ inch casing was cemented at 6415 ft. for a test of showings found near the top of the Santa Margarita. All tests made to date have shown only salt water with a little gas. The operator is cementing off all the perforations in an attempt to exclude the water. The well is located near the south ¼ corner of section 10-31s-29e.

Raisin City Cat Abandoned

Amerada Pet. Co., Mendota Irrigation District No. 1, located in section 12-14s-16e was abandoned after drilling to a total depth of 5500 ft. A formation test was made of the interval 5080 ft. to 5136 ft. (probably a basal Kreyenhagen sand) where recovery consisted of 2300 ft. of muddy salt water. The operators future plans for the area are not known at this time.

Texaco Completes Madera Gas Well

The Texas Co. Gill No. 61-20, was completed on December 30, 1943 for an initial production of 8,000 M. C. F. per day of dry gas. The hole was drilled and cored to a total depth of 5813 ft. and bottomed in gray sand. A string of 5½ in. casing was cemented at 4537 ft. and gun perforated in two stages between the depths of 4450 ft. and 4480 ft. A 4 inch perforated liner was then landed at 4488 ft. with shop made perforations opposite those shot in the 5½ inch casing. The well is now standing shut in with tubing and casing presures equalized at 1750 pounds. The hole is located in the Herminghaus area of Madera county on section 20-13s-16e. About 10 miles northwest of this well, the Texas Co. has a derrick erected on section 7-12s-15e for Moffatt No. 55-7.

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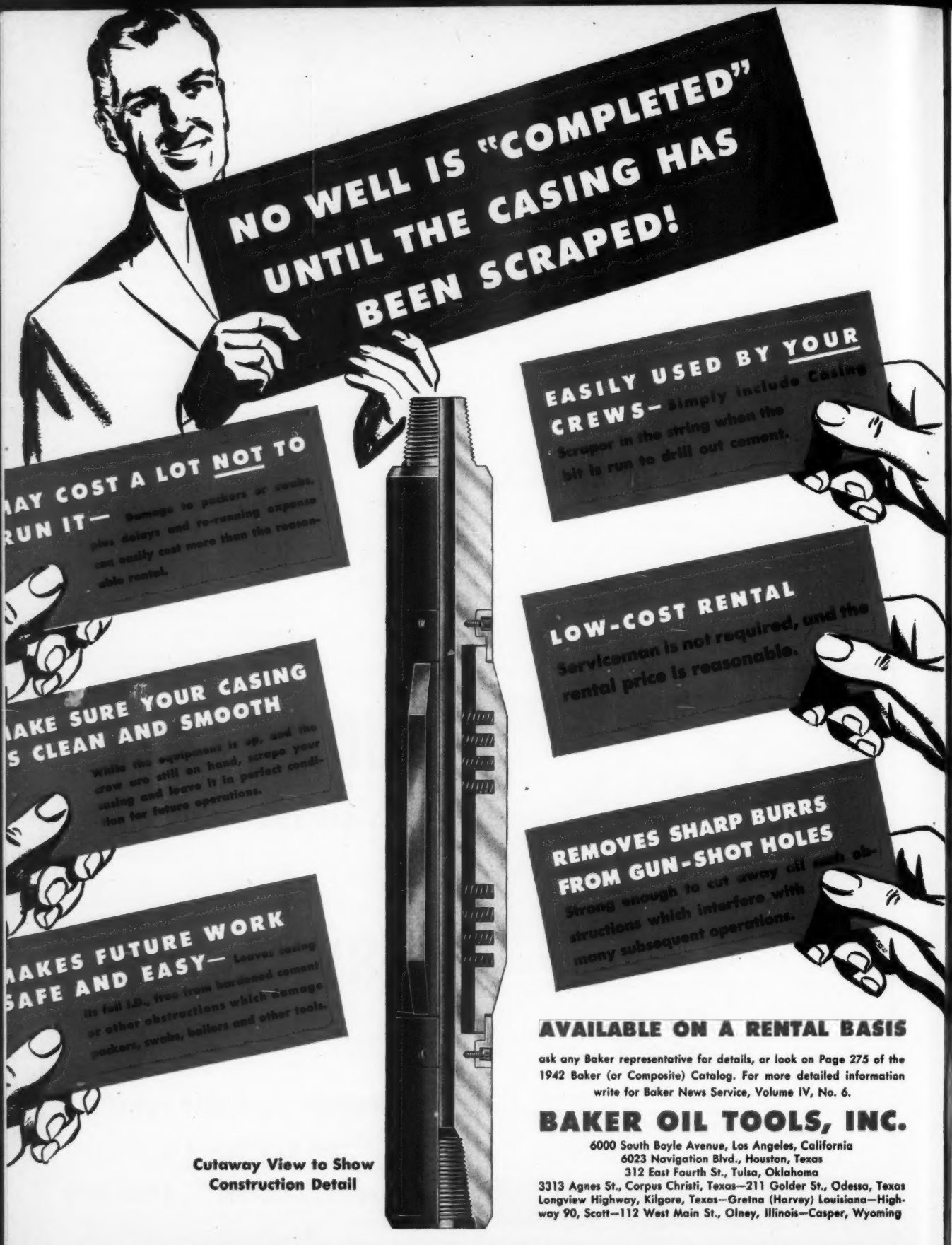
NO WELL IS "COMPLETED" UNTIL THE CASING HAS BEEN SCRAPED!
AY COST A LOT NOT TO RUN IT— Damage to packers or swabs, pipe, delays and re-running expense can easily cost more than the reasonable rental.
AKE SURE YOUR CASING S CLEAN AND SMOOTH While the equipment is up, and the crew are still on hand, scrape your casing and leave it in perfect condition for future operations.
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Cutaway View to Show Construction Detail

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THIS LAUGH

OFF!!

Mother: "Isabel, where have you been 'til now? It's three in the morning."

Isabel: "Walking, mother."

Mother: "For goodness sake!"

Isabel: "Yes, mother."

Some tourists were standing on the edge of Mt. Vesuvius looking at the molten lava. An American said to his companion, "Looks hot as Hell."

An Englishman standing nearby said to his friend, "Those Americans have been everywhere."

General MacArthur has, it seems, his lighter moments. One of his favorite yarns is that of a child who asked his father the difference between a Garand repeating rifle, and an ordinary gun. Well, it's like this," replied the Dad. "It's just as if I spoke, and then your mother spoke."

Private Flinch was late for parade. "Well, it's nice to see you, soldier," said the Sergeant in a well-modulated snarl. "We had so feared you had signed a separate peace."

A city lassie, working on a farm during her vacation to help out with the labor shortage, was observed by her farmer employer doing a very odd thing. She was allowing the cow to drink a pail of milk she had just obtained from the animal.

"What's going on here?" stormed the farmer. "Why are you letting the cow drink all the milk?"

"Well," replied the farmerette, "the milk looked pretty thin and I thought it might help to run it through again."

A squadron observer was called in by his commanding officer after an air raid and asked if he had been nervous during the attack.

"No, sir," was the reply. "I was cool as a cucumber."

"I'm glad to hear that," smiled the C. O. "It appeared that you may have been a little rattled when you called in that there were 27,000 bombers coming over at 18 feet."

For the married man that absolutely must drink: Start a saloon in your own home. Be your only customer and you won't have to buy a license. Give your wife $9.00 to buy a gallon of whiskey. Remember, there are 69 glasses in a gallon. Buy your drink only from your wife. When the first gallon is gone, she will have $8.00 to deposit in the bank and $9.00 to start business again. If you should live ten years and continue to buy booze from her and then die with snakes in your shoes, she will have enough to bury you respectfully, bring up your children, buy a house and lot, marry a descent man and forgot all about you.

There once was an old man, named Morning,
Who refused to heed any warning,
He drove on the track
Without looking back
And they're mourning this morning for Morning.

"The jungle was all around us. Ammunition, food, and whiskey had run out, and we were parched with thirst!"

"But wasn't there any water?"

"Sure. But it was no time to think of cleanliness."

"I can't see what keeps you women from freezing."

"You aren't supposed to, Big Boy."

Mother: "Isabel, where have you been 'til now? It's three in the morning."

Isabel: "Walking, mother."

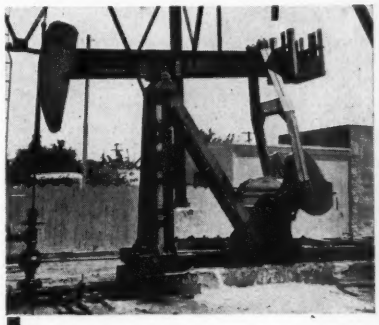
Mother: "For goodness sakes!"

Isabel: "Yes, mother."

She was really a welder, but, my, how she could bolt down the food.

"Well, I guess I might as well put the motion before the house," thought the chorus girl as she danced out on the stage.

A pink elephant might be called a beast of bourbon.



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Combination Gun Perforator and Production Tester

Through combining a gun perforator and production tester into one unit which both perforates the casing and gives an accurate gauge of the productiveness of a zone on a single run into the well, McCullough Tool Company is enabled to offer a new time- and money-saving service to the oil industry. The Gun Casing Tester is run on drill pipe or tubing, and accurate pipe measurements are utilized to assure the location of the perforations in the exact zone designated for testing.

The Gun Tester consists of a production tester with a gun perforator attached below it. The gun perforator may be a short unit for firing one to four shots, or it may be a standard gun which shoots 10, 20 or 30 shots in a five-foot section. A number of guns may be joined together to cover the extent of the zone to be tested.

Operation of the Gun Tester is both quick and easy. When the gun tester is stationed at the zone to be tested the gun is fired and the control head or christmas tree attached to the production string. The tester is then raised and set above the perforated area and the sample-taking valve is opened. Setting the tester isolates the zone being tested from the hydrostatic pressure so that the test is made under formation pressure only and before the zone can be contaminated by the well fluid. This insures an accurate gauge of the productiveness of the zone. When a number of zones are to be tested, the uppermost zone is tested first and the others in succession, working downward. Thus, no plugs or squeeze jobs are required between tests and much time and expense are saved.

In addition to its use in testing for oil production, the Gun Tester is widely used in testing for water shut-off and in determining the success of squeeze cementing operations. The tool may be run with or without a water cushion, and, due to its design, it releases easily after the test, whether wet or dry.—McCullough Tool Company, 5820 South Alameda Street, Los Angeles, California.

Westinghouse Announces New Porcelain Clad Capacitors

For high voltage d-c applications where space is limited, new solder-sealed procelain-clad type FPC Inerteen Capacitors are announced by Westinghouse Electric and Manufacturing Company.

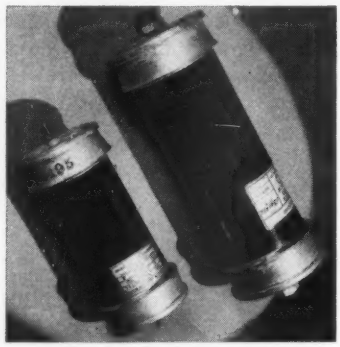


Figure 1—Type FPC, porcelain-clad capacitators with mounting studs.

From 7,500 volts up to and including the 200,000 volt class, the capacitor elements are hermetically sealed in a tubular, wet-process porcelain body with solder sealed end closures. The end closures act as the capacitor terminal by connecting the element leads at opposite ends, utilizing the porcelain tube as insulation.

By eliminating the large metal case and bushings required by metal case capacitors, the new porcelain-clad capacitors help maintain minimum over-all dimensions. Larger types are furnished with or without cast mounting flanges. Where castings are used, the capacitors are solder-sealed, then castings are cemented on with mineral-lead compound.

Additional information on type FPC Capacitors may be secured from Dept. 7-N-20, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Penna.

W.P.B. Issues Data on Chemicals

In its December report on the distribution of chemicals for civilian consumption, the War Production Board has listed data relating to certain products used by the oil industry.

Drilling activities utilize large amounts of certain phosphate chemicals for controlling the viscosity of mud. Prominent among these chemicals is one known as **tetra-sodium pyrophosphate.** The WPB report states that requests for tetra-sodium pyrophosphate were cut to 50 percent of present actual requirements, or to 50 percent of the average monthly consumption during the base period — whichever was the lowest. Primary distributors were allocated 50 percent of their average monthly purchases for resale during the base period. Where this, and other phosphates was used in boiler water treatment, the December allocation was granted in full.

Petroleum cresylic acid was allowed a 48% distribution (154,000 lbs.) for use in carbon removers; 22% (112,000 lbs.) for disinfectants; and 40% (100,000 lbs.) for miscellaneous uses.

Methyl ethyl ketone was released 100% (20,000 lbs.) to the petroleum industry for dewaxing lubricating oils; and 100% (15,000 lbs.) for gasoline gum inhibitors.

Naphthenic acid and naphthenates were granted in full for the preparation of cutting oils (85,160 lbs.); and for use in special lubriccants (199,804 lbs.).

Isobutyl alcohol was granted only to the extent of 10% for the manufacture of hydraulic brake fluids.

Isopropyl alcohol was granted 100% for the preparation of gasoline inhibitors.

..Chrome chemicals for use in the prevention of corrosion were granted to the extent of 82%, expressed as sodium bichromate.

Anhydrous ammonia was granted 100% to all requests for industrial uses.

Aniline oil was granted 68% (130,000 lbs.) for the preparation of petroleum additives.

Mrs. Ralph K. Davies Launches Tanker

The inside story of America's desperate and successful war against destruction of our vital tanker fleet was revealed by Ralph K. Davies, Deputy Petroleum Administrator, at Marinship as he took part in the launching of the tanker S.S. Mission Santa Ynez.

Just before the seventeenth tanker built at the Sausalito shipyard hit the waters of San Francisco Bay, Mr. Davies recalled the harrowing experiences which he has gone through in the period while he has been in charge of our nation's petroleum program.

"Somewhat over a year ago our tankers were being sunk ten times as fast as we could build them. Had this rate of net loss continued many more weeks we must have been paralyzed. Planes and tanks and ships are as so much junk unless provided with oil.

"The tide turned in our favor in November, 1942, thanks to success of our Navy in combatting submarine attack and the magnificent record of our shipbuilders. We are now adding new tankers ten times as fast as we have been losing them. The tables have been reversed.

"I take pride that Marinship has so magnificently performed in meeting the needs of the nation."

As the ship broke loose from the ways Mrs. Davies broke a bottle of champagne across the bow. At her side was their daughter, Miss Maryon (OK) Davies, 14 years of age, as maid of honor, and their younger daughter, Alice.

Mr. Davies was introduced by K. K. Bechtel, President of Marinship Corporation.

The Christmas motif was maintained by a jovial picture of Santa on the bow of the ship, and a Christmas selection by Marin Junior College under the direction of Clinton Lewis.

Present at the launching in his picturesque Franciscan monk's habit was Father Celestian Quinlan, padre of Mission Santa Ynez, which was founded in 1804 and still is active about 40 miles northwest of Santa Barbara.

American Petroleum Institute Los Angeles Basin Chapter Officers and Advisory Committee

Chairman, W. J. Larson.
Vice-Chairman, Lloyd Metzner.
Secretary-Treasurer, Dave M. Anderson.
Asst. Secretary-Treasurer, Knight Templeton.

Advisory Board—Terms Ending 1944

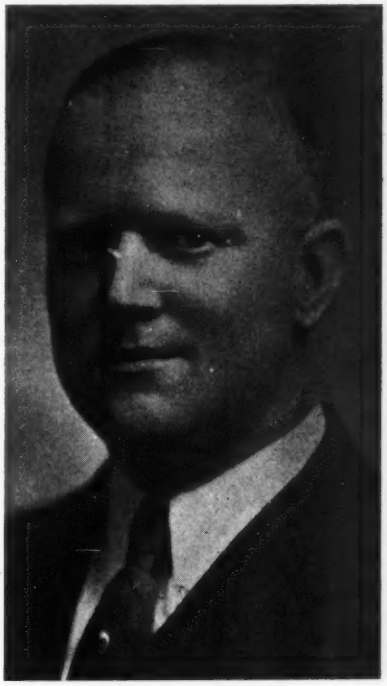
W. E. Larson, Texas Company.
R. A. Werts, Union Pacific.
E. L. Davis, PAW.
Wm. Woelflin, Petroleum Rectifying Co.
Pat Elliott, Oil Field Service.
H. O. Woodruff, Texas Company.
Al M. Johnson, Shell Oil Company.
Al R. Yorston, Oil Operators, Inc.
A. C. Tutschulte, Tidewater Association.
Vern Adams, General Petroleum.
M. R. Conger, Axelson Mfg. Co.
H. E. Winters, Union Oil Co.

Advisory Board—Terms Ending 1945

Fred P. Miller, Continental Oil Co.
Robert P. Phillips, Schlumberger.
Earle M. Boggess, Baker Oil Tools, Inc.
E. W. Clark, U. S. Oil & Royalty Co.
J. T. Carriel, State Division of Oil & Gas.
John O'Keefe, Richfield Oil Co.
F. J. Hardesty, Long Beach Harbor Dept.
Harry Meyer, Signal Oil & Gas Co.
Ralph Hansen, Continental Oil Co.
S. T. Taylor, Long Beach Oil Development.
K. M. Bravender, Union Oil Co.
Verne Shepherd, Eastman Oil Well Survey.
A. F. Wilson, Standard Oil of California.

P. E. Allan Elected V. P. Tide Water Associated

Mr. P. E. Allan, General Sales Manager of the Associated Division, Tide Water Associated Oil Company, has been appointed a Vice President of the company, the Board of Directors announced recently.



P. E. Allan

Mr. Allan joined the company in 1915 and by 1920 was Assistant Sales Agent at Portland, Oregon. Serving in various capacities in the Lubrication and Refined Oil Divisions of the General Office, Allan subsequently became District Sales Manager in San Francisco and Domestic Sales Manager of the Associated Division.

In his current position of General Sales Manager, he has taken a leading part in petroleum industry activities in the West.

Deep Test Continues

Standard Oil Co. Baldwin-Cienega No. 105, deep test well in the Inglewood field, is spot coring ahead in shale with streaks of gray sand below 11,000 ft. No showings have been found below the Sentous zone. The operator reports that well will be drilled into the Schist formation.

Paul J. Howard Makes Statement for Kern County Asssessor

Kern County has about one-third of the oil reserves in California and about one-third of this third is contained in Elk Hills, most of which is owned by the U. S. Navy. Kern County oil properties outside of Elk Hills are being depleted, largely for the war effort, at a rate 7.5 times as fast as those in the Elk Hills Reserve.

The predecessors of Standard Oil Company of California were legal owners of land in Elk Hills long before the U. S. Navy drew a line around the field and called it a Naval Reserve. However, Standard has cooperated with the Navy in keeping the oil in Elk Hills as a reserve. As a result the greater portion of the field is still undeveloped.

Prejudice against Standard Oil Company, even if warranted, should not blind people to a realization of their own best interests in the matter of handling the Elk Hills situation. Why should taxpayers willingly stand for paying many millions of dollars for Standard's Elk Hills lands, of undetermined value, when Standard has already agreed to set them aside as a reserve without the need for purchase. Just how many oil operators would agree to forego all profits from thousands of acres of their own proved oil land for a period commencing six months after this war until another war is upon us? However, that's just what Standard has agreed to do under the presure proposed contract.

The people are being called upon to buy War Bonds for the prosecution of the war. The radio programs and newspapers tell us how vitally money is needed. Then it is proposed to use many of these millions of dollars for an entirely unnecessary purpose. The Secretary of the Navy has stated positively that the Navy's need for a reserve in Elk Hills would be fully met by the proposed contract with Standard and that the payment of many millions of dollars for land of undetermined value would be a waste of taxpayers' money.

In the event of purchase by condemnation, or otherwise, Kern County and its minor subdivisions would be seriously affected by the removal of these private properties from the tax rolls. The losses would be especially serious if the Elk Hills Reserve were extended to include the adjacent Coles Levee oil field, as the Navy has definitely contemplated doing. Lands owned or operated by five additional companies would be involved in the latter event.

The wholesale unnecessary acquisition of varied kinds of private lands by the Federal Government throughout the United States has become a serious matter because in eliminating taxable property from the local assessment rolls it either throws an additional tax burden on the remaining taxpayers or results in a curtailment of local government services, including schools and hospitals. It is time the Federal Government stops chiseling the base from under local self governing units before they topple and are swallowed up by an expanding central government over which the ordinary citizens have little control.

Willing to lease the Welcome Oil Company's 321 acres in Section 2, 26-18 Kern County, California.

For information to lease write to:

H. PIERSOL, President

405 Easton Bldg., Cor. 13th & Broadway, Oakland, Calif.

modernized
WATER WITCH SERVICE
in oil wells
serving California fields

OILFIELDS SERVICE CO.

R. D. Elliott, Manager

529 Roosevelt Rd. Long Beach — Ph. Long Beach 42096

F. M. (Peanuts) Wilson has just been appointed representative of the Weatherford Spring Company for north central Texas with headquarters at Wichita Falls.

Mr. Wilson was with the Decker Tool & Supply Company for more than nine years, but has more recently represented oil field specialty manufacturers in Texas. He is well known to the industry in that state where friends and customers refer to him as "Peanuts".

E. M. Smith Buys Interest in Hake Galvanizing Co.

E. M. Smith, founder and for many years president of Emsco Derrick & Equipment Company and various other well known Emsco organizations, announces the purchase of a half interest in the Hake Galvanizing Company of Harvey (near New Orleans) Louisiana, and his return to active participation in the industrial affairs of the Mid-Continent area.

"E. M." is one of the best known men throughout the petroleum and allied industries of the world, having organized and developed a number of companies to positions of international prominence and leadership in this and other industrial fields. For several years he has been active in the Globe Oil Tools Company of Los Nietos, California, one of the organizations closely affiliated with the oil industry, and his many friends will welcome his return to the Mid-Continent fields.

Mr. Smith states that the Hake Galvanizing Company is engaged exclusively in war work at the present time, but will be available for oil field and general industrial work as soon as war requirements have been taken care of. The company's operations extend throughout the Mid-Continent, Texas, Gulf Coast, and South Atlantic coastal areas.

BUY
WAR BONDS

McCarty Co. Opens Pittsburgh Office

Establishment of new offices in Pittsburgh, open January three, is announced by The McCarty Company, industrial advertising counsellors. This expansion is in keeping with the company's conviction that great post war activity will center around Pittsburgh.

R. S. Reed, Jr., for the past twelve years advertising director of Pittsburgh Equitable Meter Company of Pittsburgh, and Merco Nordstrom Valve Company of Pittsburgh and Oakland, has been appointed manager of the Pittsburgh office. The McCarty Company has handled the advertising of the Nordstrom concern for twenty-two years through its Los Angeles and San Francisco offices.

Effective January three the Pittsburgh Equitable Meter account will also be serviced by the company's Pittsburgh office, which is located in Suite 2205, Koppers Building.

California Oil and Gas Association Elects Directors For 1944

Ralph B. Lloyd, president of the Lloyd Corporation, Ltd., was re-elected president of the California Oil and Gas Association for a third term at the December meeting of the Association's Board of Directors held yesterday. A. C. Mattei, president of the Honolulu Oil Corporation, and Reese H. Taylor, president of the Union Oil Company of California, were elected vice-presidents. C. A. Johnson, president of the Holly Development Company, was elected treasurer. F. E. Foster continues as managing director, and D. S. Kilgour as assistant manager.

Directors elected for 1944 include: Leigh M. Battson, c/o Robert S. Lytle, Operator; S. Belither, chairman, Shell Oil Company, Inc.; James B. Black, president, Pacific Gas and Electric Co.; H. D. Collier, president, Standard Oil Company of California; R. E. Collom, vice-president, Continental Oil Company; J. A. Crawford, president, Youngstown Steel Products Co.; S. J. Dickey, president, General Petroleum Corporation of California; E. S. Dulin, president, Byron Jackson Company; LeRoy M. Edwards, vice-pres., special counsel, Southern California Gas Company; E. B. Gilmore, president, Gilmore Oil Company; Dana Hogan, president, Hogan Petroleum Company; R. P. Huggins, general manager, Western Gulf Oil Company; Wm. F. Humphrey, president, Tide Water Associated Oil Company; C. S. Jones, president, Richfield Oil Corporation; W. M. Keck, president, Superior Oil Company; Wm. Reinhardt, vice-president, Union Pacific Railroad; F. C. Ripley, manager, Chanslor-Canfield Midway Oil Company; L. P. St. Clair, president, Independent Oil Producers' Agency; J. B. Sutherland, division manager, Ohio Oil Company; C. P. Watson, vice-president, Seaboard Oil Co. of Delaware; Torrey H. Webb, vice-president, The Texas Company; A. L. Weil; Lee K. Whittier, treasurer, Belridge Oil Company; W. C. Whaley, vice-president, general manager, Barnsdall Oil Company.

Nomads— December Meeting

At a business session preceding the regular monthly dinner meeting of the Los Angeles Chapter of Nomads held Wednesday, December 8, 1943 nominations for officers and regents for the coming year were presented to the membership for consideration. Ballots for voting on the candidates will be sent out during the time intervening between this meeting and the Annual Meeting to be held January 12, 1944 and the actual election of officers will then be held.

Following the Pledge of Allegiance to the Flag which opened the dinner meeting President Pullman called the meeting to order and had the guests of the members and of the Chapter introduced. He then turned the meeting over to the Master of Ceremonies Ray Humphreys who ably introduced the speaker of the evening Dr. Yu-Shan Han from Shanghai China a visiting professor of history at the University of California at Los Angeles.

Dr. Han spoke on China at war and in the postwar period. After reviewing the history of China's struggles from the taking over of Manchuria by the Japanese to the present time he told of the present status of the war in China. Following this he discussed the probable development of China after the war and what various influence would be brought to bear on this development. Dr. Han then requested that questions relating to China be asked and a variety of subjects suggested by his remarks were discussed.

The foreign visitors attending the meeting were W. H. Little of the International Petroleum Company from Ecuador; E. R. Parr of the Caribbean Petroleum Company from Venezuela; H. M. Heath, formerly with the Texas Company of Venezuela; and C. H. Vincent, formerly with the Assam Oil Company in India.

Before adjourning the meeting, President Pullman announced the sad news that Nomad Clay Johnson had been stricken with a heart attack that afternoon and had died earlier in the evening. Tom Martin was instructed to arrange for flowers to be sent to the funeral in behalf of the Los Angeles Chapter. The meeting was adjourned at approximately ten o'clock.

Big Pipe Line Order to A. O. Smith

The A. O. Smith Corporation of this city announced recently the receipt of an order for 900 miles of 24-inch welded pipe for a new pipeline to be built by the Tennessee Gas and Transmission Company of Houston, Texas.

The order is for approximately $10,000,000 and calls for 150,699 tons of 24-inch welded pipe of ¼-inch wall thickness. The new pipe line will run from Corpus Christi, Texas, to Cornell, West Virginia.

The steel for making the pipe has been released by a special directive order of the War Production Board. It is said that the A. O. Smith Corporation has the only pipe-mill in the United States capable of making pipe of these dimensions.

By making the pipe of ¼-inch wall thickness instead of the 9/32-inch more widely available, 18,612 tons of steel are saved, and the cost reduced $1,228,000. The reduction in weight of the pipe for the giant line also reduces the transportation problem.

STARTING JANUARY 18TH

IT'S UP TO YOU!

STARTING January 18th, it's up to you to lead the men and women working in your plant to do themselves proud by helping to put over the 4th War Loan.

Your Government picks you for this job because you are better fitted than anyone else to know what your employees can and should do—and you're their natural leader. This time, your Government asks your plant to meet a definite quota—and to break it, *plenty!*

If your plant quota has not yet been set, get in touch now with your State Chairman of the War Finance Committee.

To meet your plant quota, will mean that you will have to hold your present Pay-Roll Deduction Plan payments at their peak figure—*and then get at least an average of one EXTRA $100 bond from every worker!*

That's where your leadership comes in—and the leadership of every one of your associates, from plant superintendent to foreman! It's your job to see that your fellow workers are sold the finest investment in the world. To see that they buy their share of tomorrow—of Victory!

That won't prove difficult, if you organize for it. Set up your own campaign right now—and don't aim for anything less than a 100% record in those *extra* $100 bonds!

And here's one last thought. Forget you ever heard of "10%" as a measure of a reasonable investment in War Bonds under the Pay-Roll Deduction Plan. Today, thousands of families that formerly depended upon a single wage earner now enjoy the earnings of several. In such cases, 10% or 15% represents but a paltry fraction of an investment which should reach 25%, 50%, or more!

Now then—Up and At Them!

Keep Backing the Attack!—WITH WAR BONDS

This space contributed to Victory by CALIFORNIA OIL WORLD

This advertisement prepared under the auspices of the United States Treasury Department and the War Advertising Council